

MULTITRACK MD RECORDER

MD4S

SERVICE MANUAL



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IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: This presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principal-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity you body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss.)

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

WARNING: CHEMICAL CONTENT NOTICE!


The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ WARNING

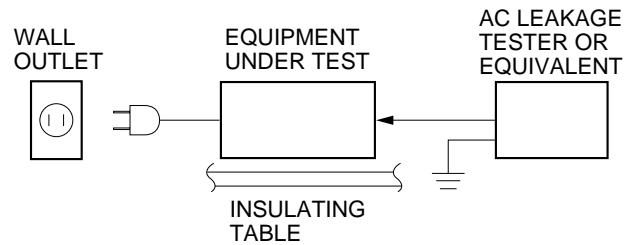
Components having special characteristics are marked  and must be replaced with parts having specification equal to those originally installed.

■ TO SERVICE PERSONNEL

Leakage Current Measurement (For 120 V Models Only).

When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F.
- Leakage current must not exceed 0.5 mA.
- Be sure to test for leakage with the AC plug in both polarities.



• POLARIZATION (U, C models)

This product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THIS PRODUCT SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

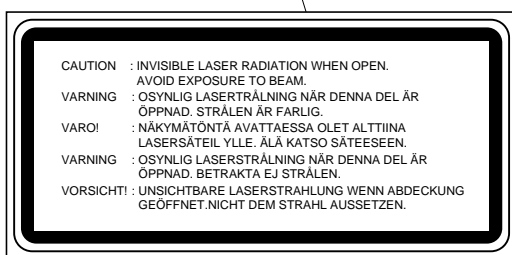
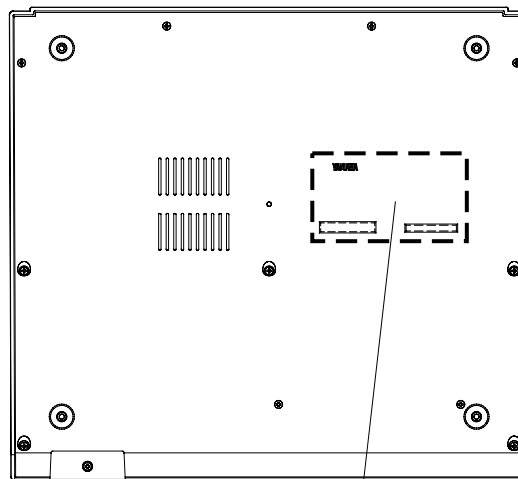
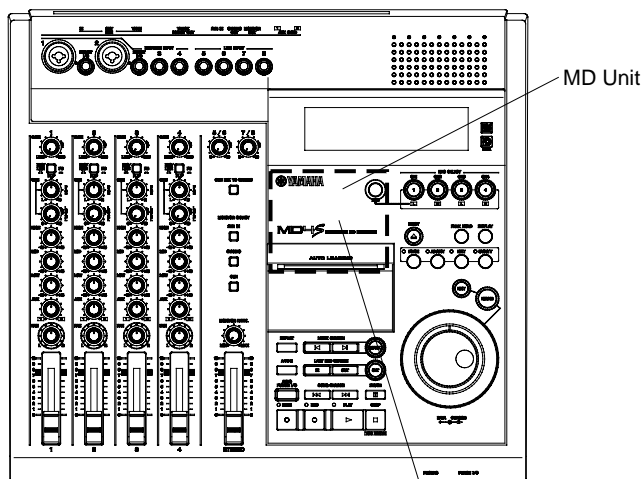
This set employs a laser. Therefore, be sure to carefully follow the instructions below when servicing.

1. Laser Diode Properties

- Material : GaAlAs
- Wavelength : 780 nm
- Emission Duration : Continuous
- Laser Output : max. 44.6 μ W*

*This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. When checking the laser diode emission, keep your eyes more than 30 cm away from the objective lens.



H.B.models

<Top View>

CLASS 1 LASER PRODUCT

H.B.models

<Bottom View>

English

- ① THIS LABEL SHOWN ON FIGURE INFORMS THE USER THAT THE APPARATUS CONTAINS A LASER COMPONENT.
- ② THIS LABEL WARNS THAT ANY FURTHER PROCEDURE WILL BRING THE SERVICE PERSONNEL INTO EXPOSURE WITH THE LASER BEAM.

**CAUTION: INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED.
DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.**

Nordic

- ① DENNA MÄRKNING (SE FIGUR) UPPLYSER OM ATT DET I APPARATEN INGÅR EN LASERKOMPONENT AV TYP KLASS 1.
- ② VARNINGSMÄRKNING (SE FIGUR) FÖR STRÅLNING. INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KÄNNEDOM OM LASER. APPARATEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.
- ① MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.
- ② DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.

VARNING: OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRRAR ÄR URKOPPLADE. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT.

VARO! : NÄKYMÄTÖNTÄ AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE. ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.

ADVARSEL: USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. STIRR IKKE INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER.



ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.

■ DISC FOR MD4S

It's important that you buy the correct type of disc for use with your MD4S. For 4-track recording and playback, you must use MD DATA discs.

Regular MiniDiscs can only be used for 2-track recording and playback (2 TR mode).

MD DATA discs are used as a storage media for computers. The MD4S uses the MD DATA audio format to store data on them. Regular MiniDiscs are also referred to as MD discs, although they are used only for music.

Type	Logo	Description
MD DATA		MD DATA discs are for computer data storage applications. You can purchase them at computer stores. This is the type of disc you should buy for 4-track recording and playback with your MD4S. Note that there are two types available: playback only and rewritable. Buy the rewritable type.
MiniDisc		MiniDiscs are used only for music. Two types are available: playback only and recordable. The MD4S can record up to two tracks on the recordable type and play the playback only type.

New MD DATA discs do not require formatting before use with the MD4S. Discs that have been used to store computer data, however, must first be formatted.

Regular MiniDisc decks cannot play MD DATA discs.


Regular MiniDiscs recorded on the MD4S can be played on a regular MiniDisc deck.

MiniDisc recordings made on a regular MiniDisc deck can be edited on the MD4S. MiniDiscs containing songs that were digitally copied from a commercial CD, however, cannot be edited due to the SCMS (Serial Copy Management System) protection system.

Songs that were recorded in 8-track mode on a recorder such as the MD8 cannot be played back on the MD4S.

SPECIFICATIONS

Recorder

Digital/Audio	Sampling Frequency: 44.1 kHz	Compression: ATRAC
	Frequency Response: 20 Hz–20 kHz, +1 dB, –3 dB	
	THD+N: Less than 0.02 % (1 kHz)	
	S/N: 96 dB typ.	
Rec/Play	4-track independent simultaneous record/play (Recording time: 37 min)	
	Dubbing with 4-track playback	
	Auto & Manual Punch In/Out (11.6 ms accuracy)	
	Four-track (37 min), Stereo (74 min), or Mono (148 min) record/play	
	Repeat play A-B, Single song, All song	
	Vari-pitch (+/-10 %)	
Locate	Start and End point of Song	Direct Time Locate
	10 Marker locate points for each song	Last Recording In/Out point
Cue & review	0.5x, 2x, 4x, 8x, 16x, 32x play speed	
Disc Editing	Disc Erase	
Song Editing	Copy, Move, Divide, Combine, Renumber, Erase	
Track Editing	Track Copy, Part Copy, Track Erase, Part Erase	
Title Editing	Disc title, Song title	
Panel Controls	REC SELECT buttons 1–4, BUS button	
	Transport buttons: PLAY, STOP, PAUSE, REC, REHE, SONG SEARCH, EJECT	
	Mode buttons: AUTO PUNCH I/O, EDIT, UTILITY, ADJUST, PITCH, PEAK HOLD, DISPLAY, EXIT	
	CURSOR shuttle/DATA dial	
	Locate buttons: MARK, MARK SEARCH, LAST REC (IN/OUT), SEARCH, SET, REPEAT, A  B	
MIDI	MIDI IN, OUT, THRU jacks	
Display	FLD (Fluorescent Display)	

Mixer

Inputs	MIC/LINE IN (CH1, 2)	Balanced phone jack x2 (–10 to –50 dB)
	MIC/LINE IN (CH1, 2)	Balanced XLR x2 (–10 to –50 dB)
	MIC/LINE INPUT (CH3–4)	Unbalanced phone jack x2 (–10 to –50 dB)
	LINE INPUT (CH5–8)	Unbalanced phone jack x4 (–10 dB)
	INSERT IN/OUT (CH 1, 2)	TRS phone jack x2 (–10 dB)
	2 TR IN (L, R)	Phono x2 (–10 dB)
Outputs	TRACK DIRECT OUT (1–4)	Phono x4(–10 dB)
	STEREO OUT (L, R)	Phono x2 (–10 dB)
	MONITOR OUT (L, R)	Phono x2 (–10 dB)
	AUX SEND (1, 2)	Phone jack x2 (–10 dB)
	PHONES OUT	Stereo phone jack (8–40 ohm)
Frequency response	20 Hz–20 kHz +1, –3 dB	
EQ	3-band, +/-15 dB (LOW: 100 Hz shelving, MID: Peaking (2.5 kHz), HIGH: 10 kHz Shelving)	
MASTER Channel Features	Stereo Fader (45 mm), Monitor Level control, Monitor Select buttons (2 TR IN, STEREO, CUE), CUE MIX TO STEREO buttons	

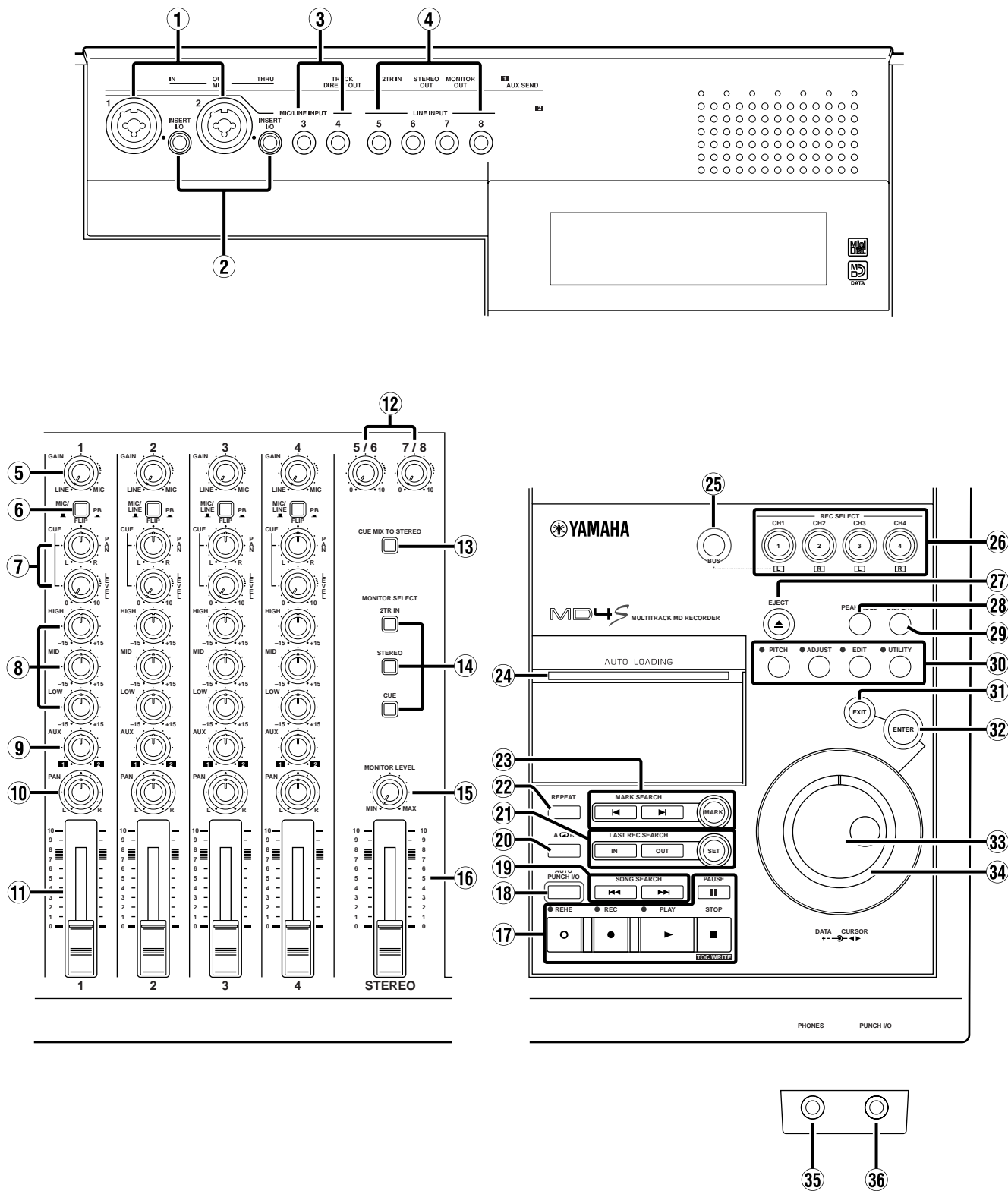
0 dB is referenced to 0.775 V r.m.s.

General

Power Requirements	USA & Canada: 120 V/60 Hz, Others: 230 V/50 Hz
Power Consumption	24 W
Dimensions (W x H x D)	413 x 109.5 x 388 mm
Weight	5.2 kg
Operating Conditions	Temperature: 5 °C–35 °C (41 °F–95 °F), Humidity: 10 %–95 %
Supplied Accessories	AC power cord, Owner’s Manual
Optional Accessories	FC5 Footswitch
Output Level	Refer to the INSPECTION SPECIFICATION Section of this manual.

PANEL LAYOUT

Control Panel



● Control Panel

Top panel connectors

- ① MIC/ LINE INPUT 1, 2 terminals
- ② INSERT I/O 1, 2 jacks
- ③ MIC/ LINE INPUT 3, 4 jacks
- ④ LINE INPUT 5-8 jacks

Mono Inputs

- ⑤ GAIN control
- ⑥ FLIP switch
- ⑦ CUE PAN/ CUE LEVEL controls
- ⑧ EQ (HIG, MID, LOW) controls
- ⑨ AUX control
- ⑩ PAN control
- ⑪ Fader

Stereo Inputs

- ⑫ Level (5/ 6), (7/ 8) controls
- ⑬ CUE MIX TO STEREO switch
- ⑭ MONITOR SELECT (2TR IN, STEREO, CUE) switches
- ⑮ MONITOR LEVEL control
- ⑯ STEREO fader

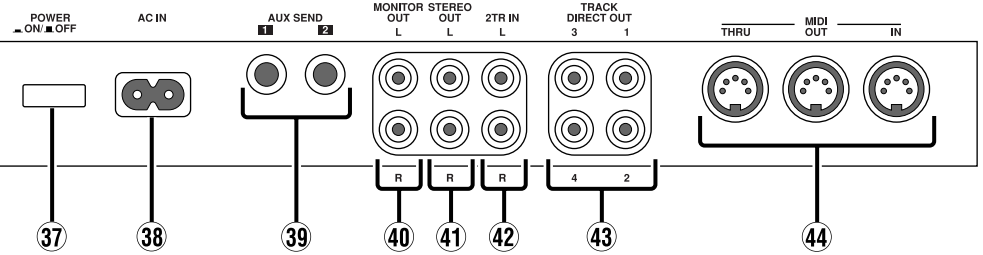
Disc transport section

- ⑰ Disk transport (REHE, REC, PLAY, PAUSE, STOP/ TOC WRITE) buttons
- ⑱ AUTO PUNCH I/O button
- ⑲ SONG SEARCH (◀◀, ▶▶) buttons
- ⑳ A↔B repeat button
- ㉑ LAST REC SEARCH (IN, OUT), SET buttons
- ㉒ REPEAT button
- ㉓ MARK SEARCH (◀, ▶), MARK buttons
- ㉔ Disc compartment
- ㉕ BUS button
- ㉖ REC SELECT buttons
- ㉗ EJECT button
- ㉘ PEAK HOLD button
- ㉙ DISPLAY button
- ㉚ Function (PITCH, ADJUST, EDIT, UTILITY) buttons
- ㉛ EXIT button
- ㉜ ENTER button
- ㉝ DATA dial (DATA + -)
- ㉞ CURSOR shuttle

● Front Panel

- ⑳ PHONES jack
- ㉞ PUNCH I/O jack

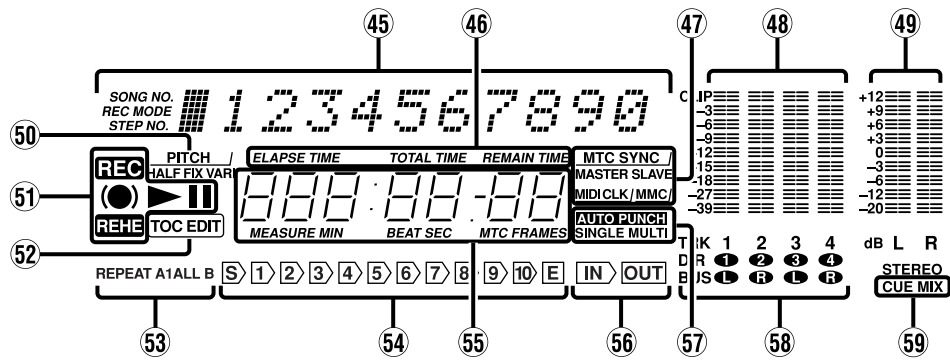
● Rear Panel



● Rear Panel

- ⑳ POWER switch
- ㉞ AC IN
- ㉞ AUX SEND 1, 2 jacks
- ㉞ MONITOR OUT jacks
- ㉞ STEREO OUT jacks
- ㉞ 2TR IN jacks
- ㉞ TRACK DIRECT OUT 1-4 jacks
- ㉞ MIDI IN, OUT, THRU connectors

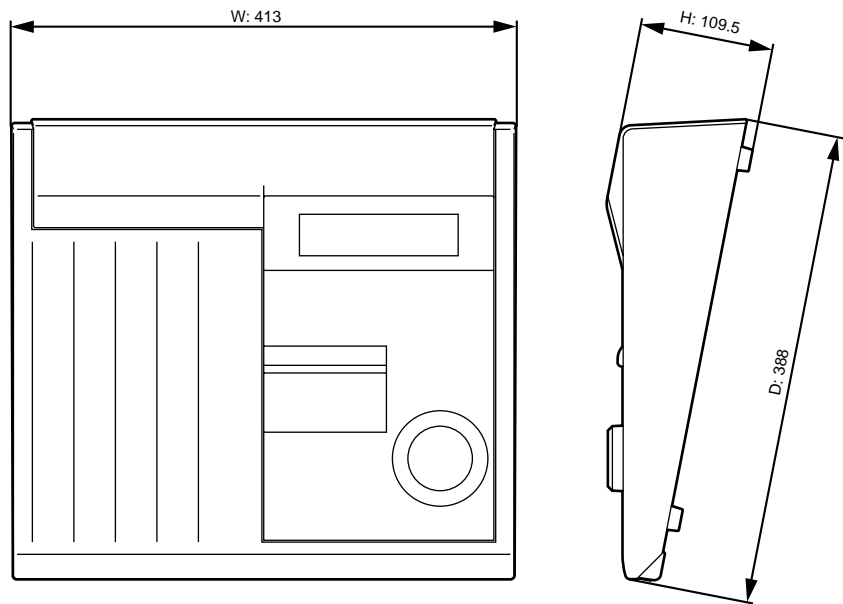
● Display



● Display

- 45 Title and function display
- 46 Time counter mode
- 47 MIDI indicators
- 48 Track level meters
- 49 Stereo level meter
- 50 Pitch indicator
- 51 Status indicators
- 52 TOC EDIT indicator
- 53 Repeat indicator
- 54 Marker indicators
- 55 Time counter
- 56 IN, OUT indicators
- 57 Auto punch indicator
- 58 Track recording indicators
- 59 CUE MIX indicator

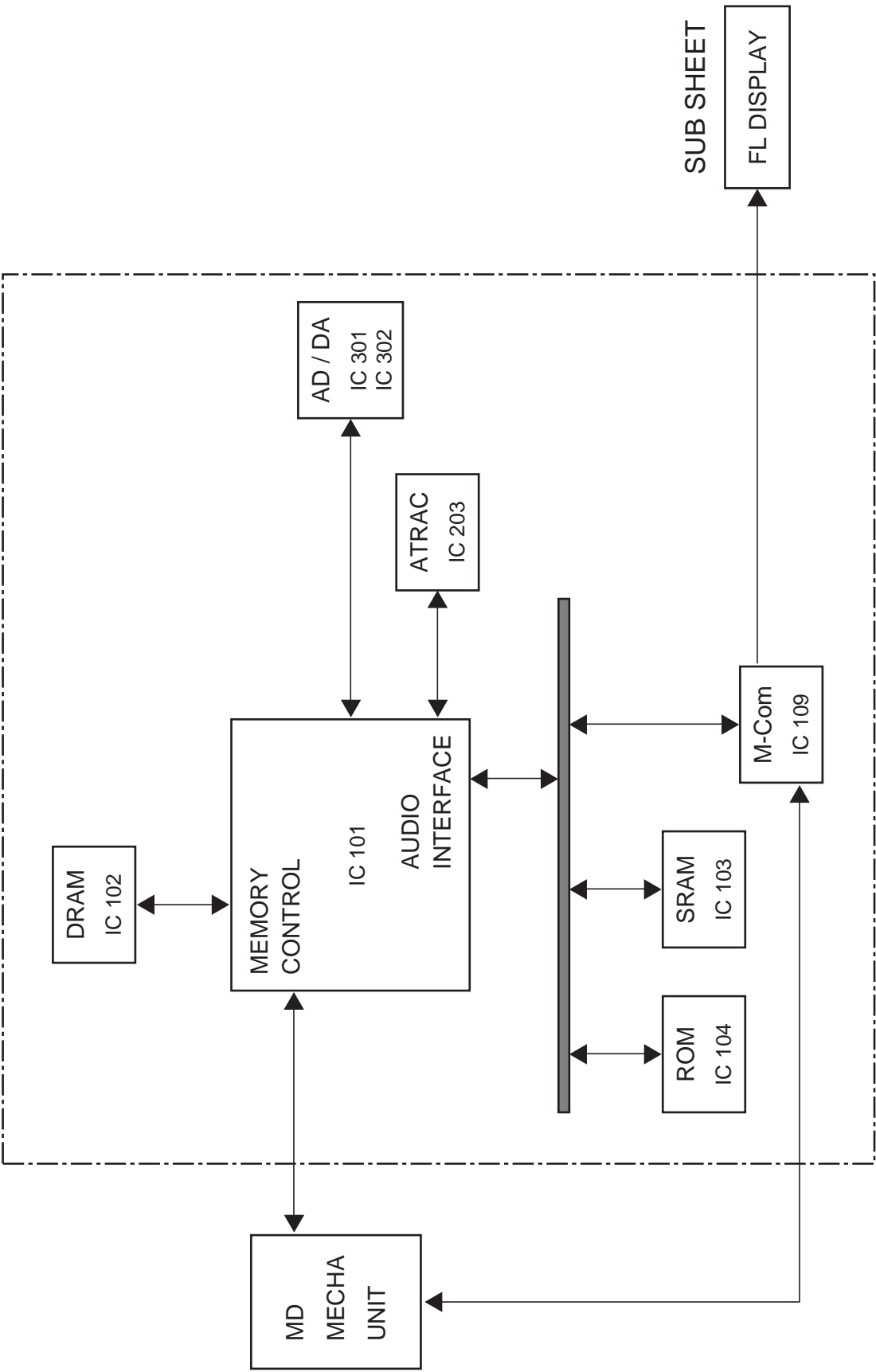
■ DIMENSIONS



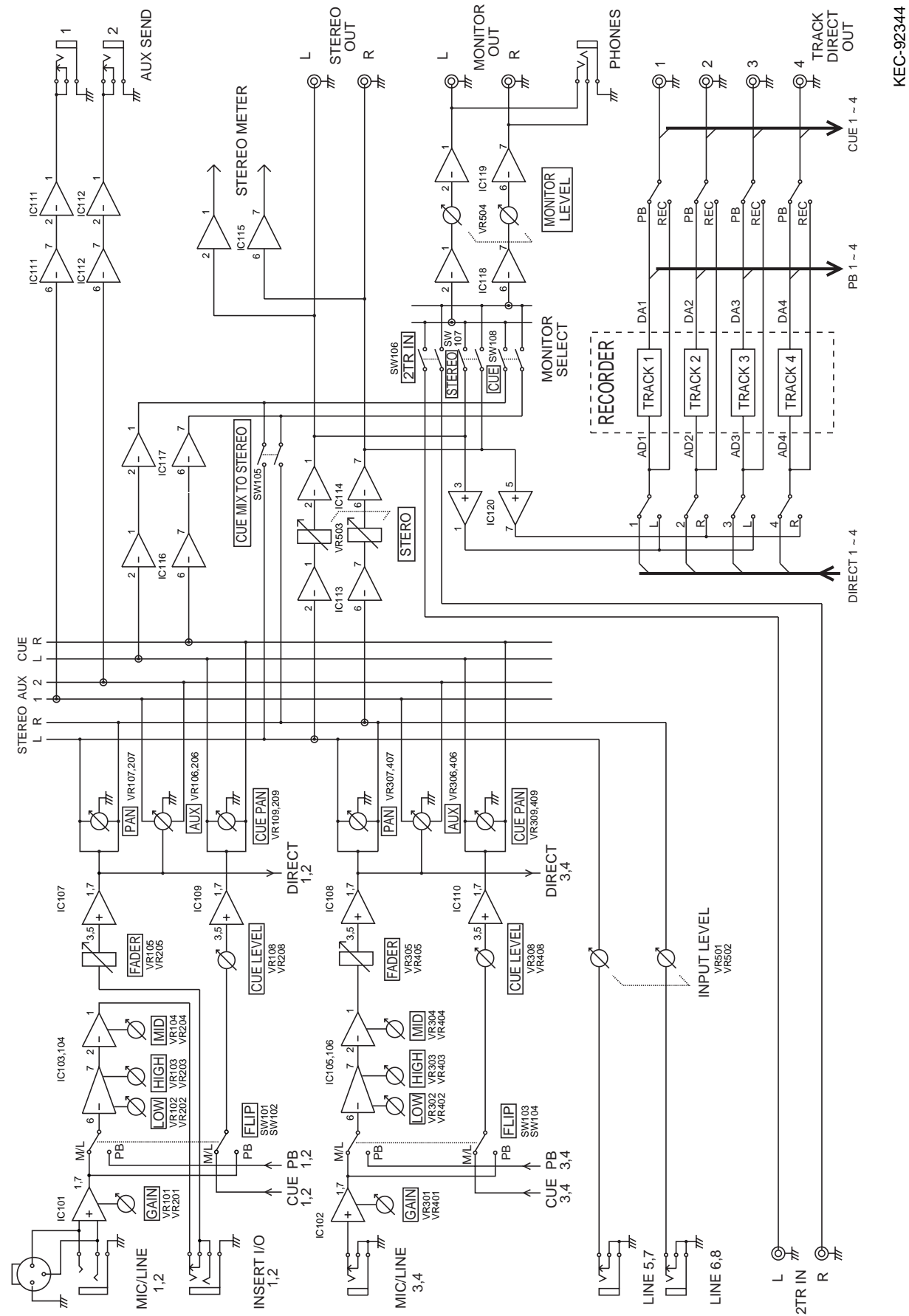
Unit : mm

■ BLOCK DIAGRAM

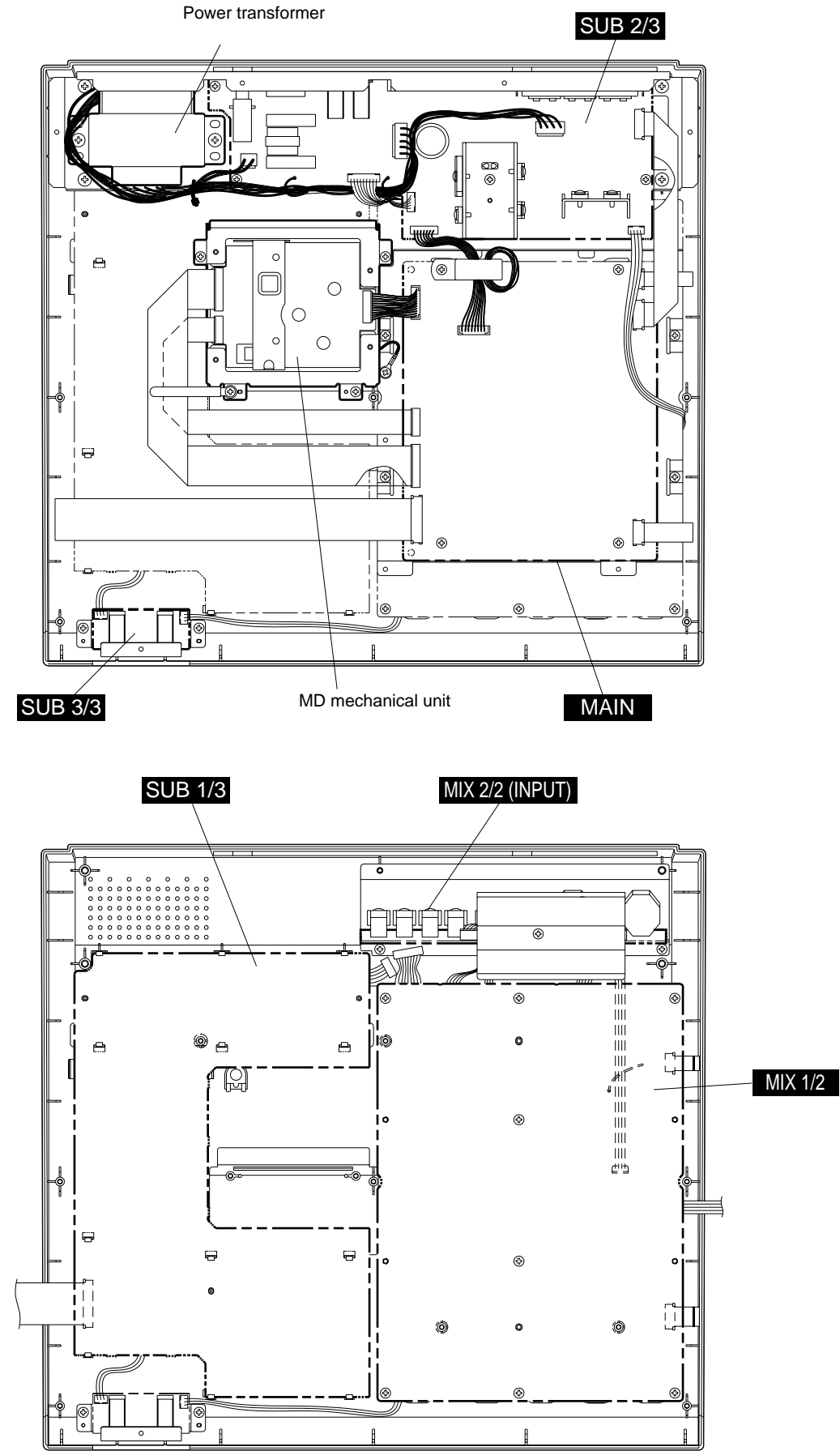
● MAIN Part



● Mixer Part



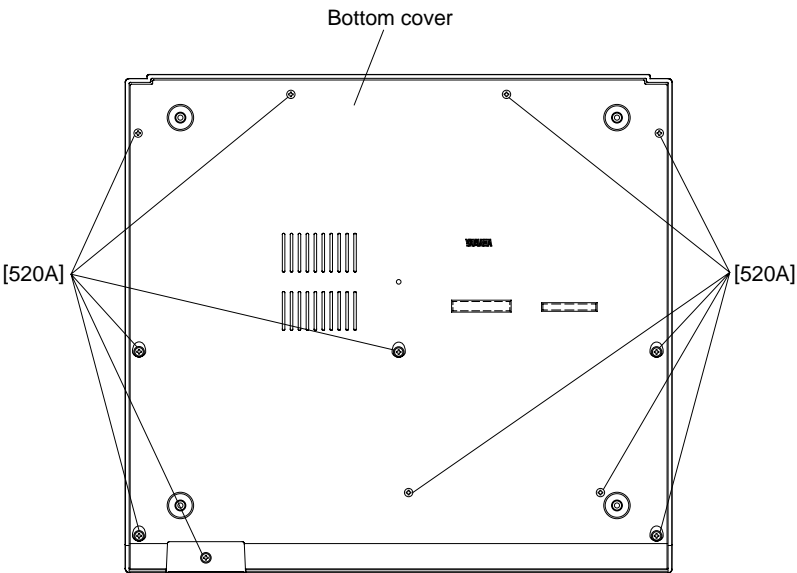
■ CIRCUIT BOARD LAYOUT



DISASSEMBLY PROCEDURE

1. Bottom Cover

- 1-1 Remove the twelve (12) screws marked [520A].
The bottom cover can then be removed. (Fig. 1)



[520A]: Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL (EP600190)

(Fig. 1)

2. MAIN Circuit Board

- 2-1 Remove the bottom cover. (See Procedure 1.)
2-2 Remove the screw marked [530] and the three (3) screws marked [520B]. The MAIN circuit board can then be removed. (Fig. 2)

3. MD Mechanical Unit

- 3-1 Remove the bottom cover. (See Procedure 1.)
3-2 Remove the four (4) screws marked [520C] and the screw marked [520D]. The MD mechanical unit can then be removed. (Fig. 2)

4. SUB 1/3 Circuit Board

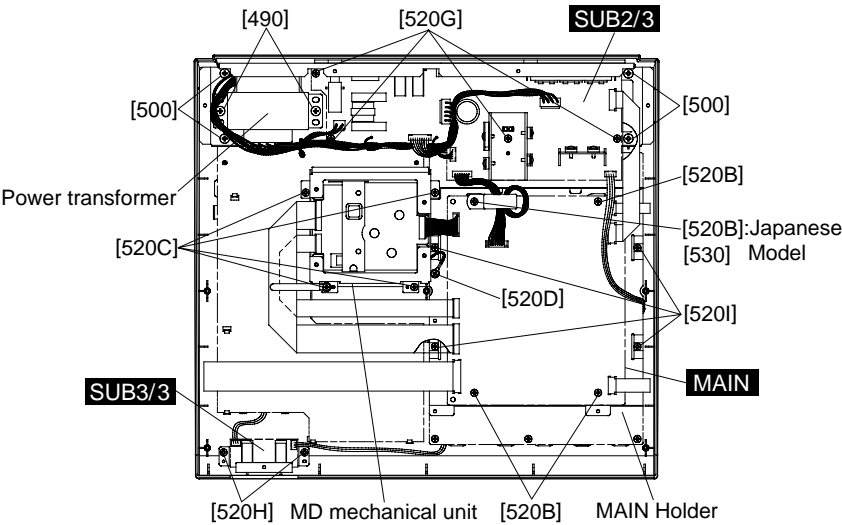
- 4-1 Remove the SHUTTLE knob and JOG knob. (Fig.3)
4-2 Remove the bottom cover. (See Procedure 1.)
4-3 Remove the MD mechanical unit. (See Procedure 3.)
4-4 Remove the two (2) screws marked [520E] and the four (4) screws marked [500]. The sub chassis with the SUB 2/3 circuit board and power transformer can then be removed. (Fig. 2, 3)
4-5 Remove the SUB 1/3 circuit board while pressing the twelve (12) hooks marked [A]. (Fig. 5)

5. SUB 2/3 Circuit Board

- 5-1 Remove the bottom cover. (See Procedure 1.)
5-2 Remove the two (2) screws marked [520E], the six (6) screws marked [520F] and the four (4) screws marked [520G]. The SUB 2/3 circuit board can then be removed. (Fig. 2, 3)
5-3 Remove the POWER button from the SUB 2/3 circuit board.

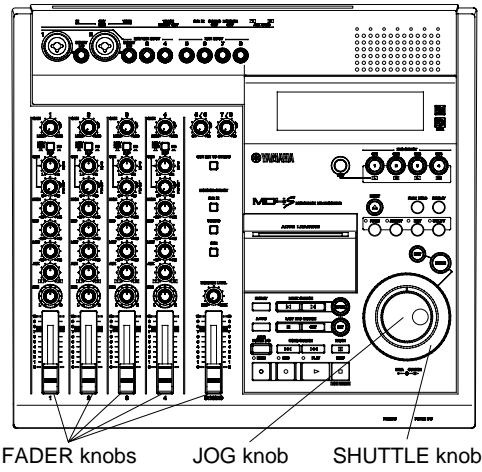
6. SUB 3/3 Circuit Board

- 6-1 Remove the bottom cover. (See Procedure 1.)
6-2 Remove the two (2) screws marked [520H]. The SUB 3/3 circuit board can then be removed. (Fig. 2)
6-3 Remove the two (2) U-shaped holders marked [410A], then remove the support JACK from the SUB 3/3 circuit board. (Fig. 6)

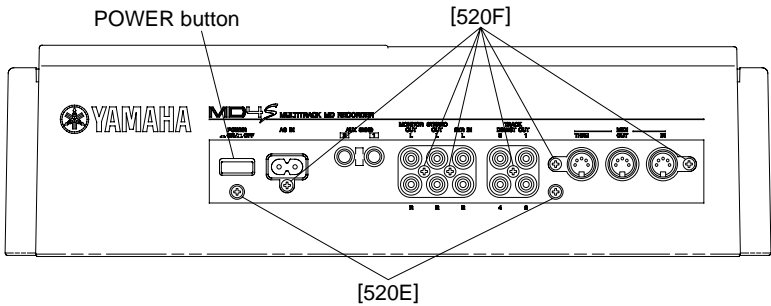


[490]: Bind Head Screw 4.0 X 8 MFZN2BL (EG340360)
[500]: Bind Head Tapping Screw-P 4.0 X 12 MFZN2BL (VA847600)
[520]: Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL (EP600190)
[530]: Screw 3B-8Y9294 (VR602100)

(Fig. 2)

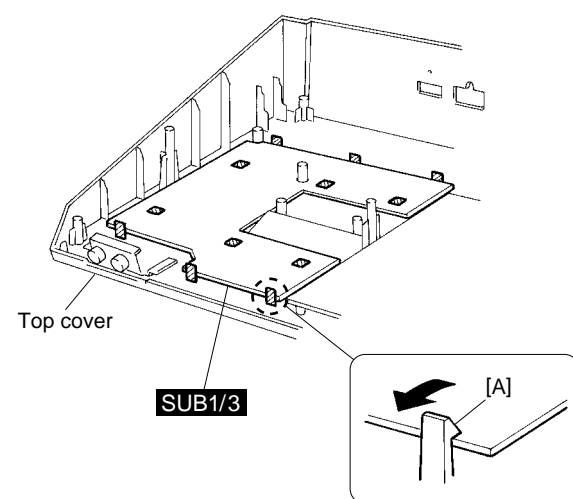


(Fig. 3)

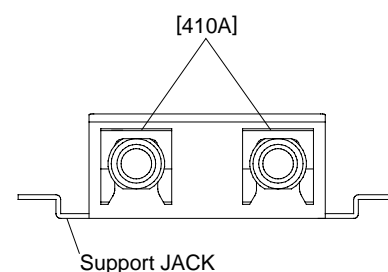


[520]: Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL (EP600190)

(Fig. 4)



(Fig. 5)



[410A]: U-shaped Holder MET41-0191 (VI549000)

(Fig. 6)

7. MIX 1/2 Circuit Board

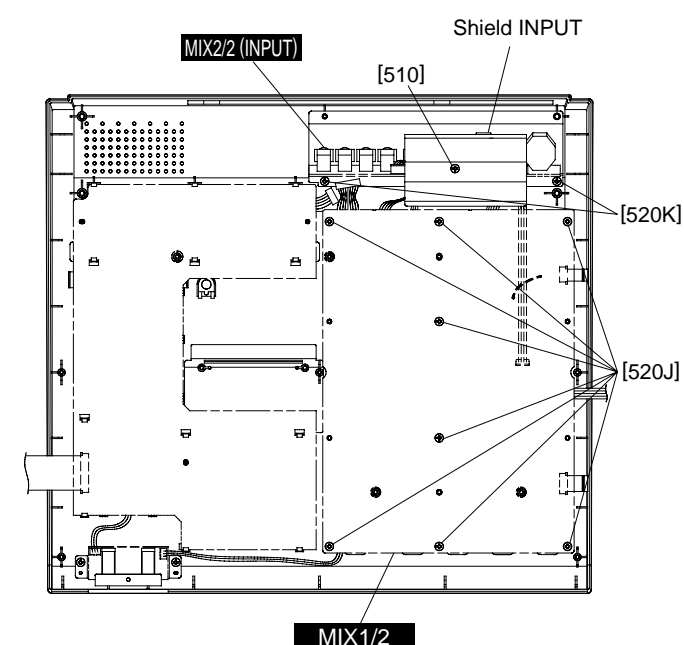
- 7-1 Remove the five (5) FADER knobs. (Fig. 3)
- 7-2 Remove the bottom cover. (See Procedure 1.)
- 7-3 Remove the SUB 2/3 circuit board. (See Procedure 5.)
- 7-4 Remove the MAIN circuit board. (See Procedure 2.)
- 7-5 Remove the four (4) screws marked [520I] and the screw marked [520D]. The MAIN holder can then be removed. (Fig. 2)
- 7-6 Remove the MD mechanical unit. (See Procedure 3.)
- 7-7 Remove the eight (8) screws marked [520J]. The MIX 1/2 circuit board can then be removed. (Fig. 7)

8. MIX 2/2 (INPUT) Circuit Board

- 8-1 Remove the bottom cover. (See Procedure 1.)
- 8-2 Remove the two (2) screws marked [520E] and the four (4) screws marked [500]. The power transformer with the SUB 2/3 circuit board can then be removed. (Fig. 2, 3)
- 8-3 Remove the screw marked [510]. The shield INPUT can then be removed. (Fig. 7)
- 8-4 Remove the two (2) screws marked [520K]. The MIX 2/2 (INPUT) circuit board can then be removed. (Fig. 7)
- 8-5 Remove the four (4) screws marked [520L] and the two (2) U-shaped holders marked [410B]. The support JACK can then be removed from the MIX 2/2 (INPUT) circuit board. (Fig. 8)

9. Power Transformer

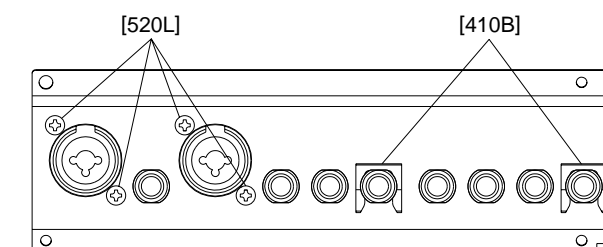
- 9-1 Remove the bottom cover. (See Procedure 1.)
- 9-2 Remove the two (2) screws marked [490]. The power transformer can then be removed. (Fig. 2)



[510]: Bind Head Screw 3.0 X 6 MFZN2BL (EG330360)

[520]: Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL (EP600190)

(Fig. 7)



[410B]: U-shaped Holder MET41-0191 (VI549000)

[520L]: Bind Head Tapping Screw-B 3.0 X 8 MFZN2BL (EP600190)

(Fig. 8)

LSI PIN DESCRIPTION

● HD6413002F16 (XP691A00) CPU MAIN IC109

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VCC		Power supply (+5 V)	51	A14	O	Address bus
2	PB0	I/O	Port B	52	A15	O	
3	PB1	I/O		53	A16	O	
4	PB2	I/O		54	A17	O	
5	PB3	I/O		55	A18	O	
6	PB4	I/O	Port B/DMA request	56	A19	O	Ground
7	PB5	I/O		57	VSS		
8	PB6//DREQ0	I		58	P60//WAIT	I	
9	PB7//DREQ1	I		59	P61//BREQ	I	
10	/RES0	O	Reset output	60	P62//BACK	O	Port 6/Bus request
11	VSS		Ground	61	∅	O	Port 6/Bus acknowledge
12	P90/TXD0	O	Port 9/Transmission data	62	/STBY	I	System clock
13	P91/TXD1	O		63	/RES	I	Stand-by mode signal
14	P92/RXD0	I		64	NMI	I	Reset
15	P93/RXD1	I	Port 9/Reception data	65	VSS		Non-maskable interrupt
16	P94/SCK0	I/O		66	EXTAL	I	Ground
17	P95/SCK1	I/O		67	XTAL	I	Crystal oscillator
18	P40/D0	I/O	Port 9/Serial clock	68	VCC		Crystal oscillator
19	P41/D1	I/O		69	/AS	O	Power supply (+5 V)
20	P42/D2	I/O		70	/RD	O	Address strobe
21	P43/D3	I/O		71	/HWR	O	Read strobe
22	VSS			72	/LWR	O	High write
23	P44/D4	I/O	Port 4/Data bus (Ground)	73	MD0	I	Low write
24	P45/D5	I/O		74	MD1	I	Mode select (mode 1 – 4)
25	P46/D6	I/O		75	MD2	I	
26	P47/D7	I/O		76	AVCC		
27	D8	I/O	Data bus	77	VREF	I	Power supply for ADC
28	D9	I/O		78	P70/AN0	I	Reference voltage for ADC
29	D10	I/O		79	P71/AN1	I	Port 7/Analog input
30	D11	I/O		80	P72/AN2	I	
31	D12	I/O		81	P73/AN3	I	
32	D13	I/O	Power supply (+5 V)	82	P74/AN4	I	
33	D14	I/O		83	P75/AN5	I	
34	D15	I/O		84	P76/AN6	I	Ground for ADC
35	VCC			85	P77/AN7	I	
36	A0	O	Address bus (Ground)	86	AVSS		
37	A1	O		87	P80//REFSH		Port 8/Refresh
38	A2	O		88	P81//CS3	O	Port 8/Chip select
39	A3	O		89	P82//CS2	O	
40	A4	O		90	P83//CS1	O	
41	A5	O	Ground	91	P84//CS0	O	
42	A6	O		92	VSS		
43	A7	O		93	PA0	I/O	Port A
44	VSS			94	PA1	I/O	
45	A8	O		95	PA2	I/O	
46	A9	O		96	PA3	I/O	
47	A10	O		97	PA4	I/O	
48	A11	O		98	PA5	I/O	
49	A12	O		99	PA6	I/O	
50	A13	O		100	PA7	I/O	

● CXD2538R (XU964A00) ATRAC MAIN IC203

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VDD1		Power supply	61	VDD2		Power supply
2	ACDI0	I	ATRAC data input 0	62	XILT	I	Test terminal (Connect it with the power supply.)
3	XABS0	I	ATRAC data serial transfer synchronization pulse input 0	63	IDSL	I	Test terminal (Connect it with the power supply.)
4	C2PO0	I	ATRAC data error flag 0	64	SICK	I	Test terminal (Connect it with the power supply.)
5	XARQ0	O	ATRAC data transfer demand 0	65	DIDT	I	Test terminal (Connect it with the power supply.)
6	ACDO0	O	ATRAC data output 0	66	ACLK	I	Serial transfer clock (128 Fs) input of ATRAC data
7	SYNC0	I	Signal input 0 for ATRAC data synchronized	67	BCK	I	2.8224 MHz (64 Fs)
8	ACDI1	I	ATRAC data input 1	68	LRCK	I	44.1 kHz (Fs)
9	XABS1	I	ATRAC data serial transfer synchronization pulse input 1	69	ADIN0	I	REC audio data input 0
10	C2PO1	I	ATRAC data error flag 1	70	DOUT0	O	Replay audio data output 0
11	XARQ1	O	ATRAC data forward demand 1	71	ADIN1	I	REC audio data input 1
12	ACDO1	O	ATRAC data output 1	72	DOUT1	O	Replay audio data output 1
13	SYNC1	I	Signal input 1 for ATRAC data synchronized	73	ADIN2	I	REC audio data input 2
14	F86IA	I	Frame synchronized signal input A	74	DOUT2	O	Replay audio data output 2
15	F86OA	O	Frame synchronized signal output A	75	ADIN3	I	REC audio data input 3
16	F86IB	I	Frame synchronized signal input B	76	DOUT3	I	Replay audio data output 3
17	F86OB	O	Frame synchronized signal output B	77	TA2	I	Test terminal (Connect it with the ground.)
18	ACDI2	I	ATRAC data input 2	78	TA3	I	
19	XABS2	I	ATRAC data serial transfer synchronization pulse input 2	79	TA4	I	
20	C2PO2	I	ATRAC data error flag 2	80	TA5	I	
21	XARQ2	O	ATRAC data f transfer demand 2	81	TA6	I	
22	ACDO2	O	ATRAC data output 2	82	TA7	I	Test terminal (Connect it with the ground.)
23	SYNC2	I	Signal input 2 for ATRAC data synchronized	83	TA8	I	
24	ACDI3	I	ATRAC data input 3	84	TA9	I	
25	XABS3	I	ATRAC data serial forward synchronization pulse input 3	85	TA10	I	
26	C2PO3	I	ATRAC data error flag 3	86	TA11	I	
27	XARQ3	O	ATRAC data transfer demand 3	87	TA12	I	Ground
28	ACDO3	O	ATRAC data output 3	88	TD0	I	
29	SYNC3	I	Signal input 3 for ATRAC data synchronized	89	TD1	I	
30	VSS1		Ground	90	VSS		
31	TEST0	I	Test terminal	91	OSCI	I	
32	TEST1	I	Test terminal	92	OSCO	O	Crystal oscillator input (1024 Fs)
33	TEST2	I	Test terminal	93	SP0	O	Crystal oscillator output (1024 Fs)
34	EXEC0	I	Start / Stop establishment input 0 ("H"=START)	94	TD2	I	1/2 oscillator output (512 Fs)
35	EXEC1	I	Start / Stop establishment input 1 ("H"=START)	95	TD3	I	Test terminal (Connect it with the ground.)
36	EXEC2	I	Start / Stop establishment input 2 ("H"=START)	96	TD4	I	
37	EXEC3	I	Start / Stop establishment input 3 ("H"=START)	97	TD5	I	
38	ATT0	I	Attenuation establishment input 0 ("H"=-12dB)	98	TD6	I	
39	ATT1	I	Attenuation establishment input 1 ("H"=-12dB)	99	TD7	I	
40	ATT2	I	Attenuation establishment input 2 ("H"=-12dB)	100	TD8	I	
41	ATT3	I	Attenuation establishment input 3 ("H"=-12dB)	101	TD9	I	
42	MUTE0	I	Mute establishment input 0 ("H"=mute on)	102	TD10	I	
43	MUTE1	I	Mute establishment input 1 ("H"=mute on)	103	TD11	I	
44	MUTE2	I	Mute establishment input 2 ("H"=mute on)	104	TD12	I	
45	MUTE3	I	Mute establishment input 3 ("H"=mute on)	105	TA13	I	
46	REC0	I	REC/PLAY establishment input 0 ("H"=REC)	106	TA14	I	
47	REC1	I	REC/PLAY establishment input 1 ("H"=REC)	107	TA15	I	
48	REC2	I	REC/PLAY establishment input 2 ("H"=REC)	108	TA16	I	
49	REC3	I	REC/PLAY establishment input 3 ("H"=REC)	109	TA17	I	
50	XLAT0	I	Latch pulse input 0 of serial interface	110	TA18	I	
51	XLAT1	I	Latch pulse input 1 of serial interface	111	TA19	I	
52	XLAT2	I	Latch pulse input 2 of serial interface	112	TA20	I	
53	XLAT3	I	Latch pulse input 3 of serial interface	113	TA21	I	
54	XRSTA	I	Reset input A	114	TA22	I	
55	XRSTB	I	Reset input B	115	TA23	I	
56	SCLK	I	Transfer clock input of serial interface	116	TS0	I	Ground
57	SWDT	I	Data input of serial interface	117	TS1	I	
58	TA0	I	Test terminal (Connect it with the ground.)	118	TS2	I	
59	TA1	I	Test terminal (Connect it with the ground.)	119	TS3	I	
60	VSS2		Ground	120	VSS4		

● MD4MC2 (XU849A00) GATE ARRAY MAIN IC101

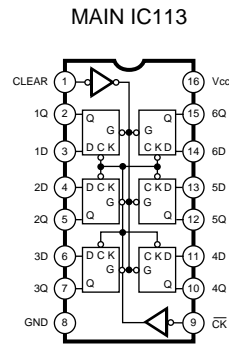
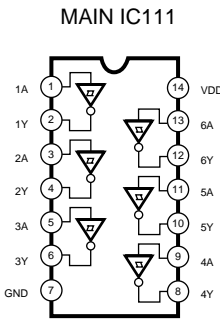
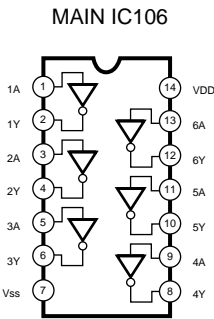
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VSS		Ground	105	VSS		Ground
2	LWRT	O	Laser power control	106	SA19		CPU address A19
3	DDATA	I/O	REC/PLAY data	107	EXTIOAO	I/O	Extension port A of bit 0
4	DC2PO	I	C2 Error flag input	108	EXTIOA1	I/O	Extension port A of bit 1
5	ADSY	I	ADIP sync input	109	EXTIOA2	I/O	Extension port A of bit 2
6	REC	O	REC/PLAY select signal	110	EXTIOA3	I/O	Extension port A of bit 3
7	(VSS)		Ground	111	(VDD)		Power supply
8	MTYP	I	DRAM type select	112	EXTIOA4	I/O	Extension port A of bit 4
9	A0	O	DRAM Address A0	113	EXTIOA5	I/O	Extension port A of bit 5
10	A1	O	DRAM Address A1	114	EXTIOA6	I/O	Extension port A of bit 6
11	A2	O	DRAM Address A2	115	EXTIOA7	I/O	Extension port A of bit 7
12	VDD		Power supply	116	VSS		Ground
13	A3	O	DRAM Address A3	117	XCS1	O	Spare 1 of chip select
14	A4	O	DRAM Address A4	118	XCS2	O	Spare 2 of chip select
15	A5	O	DRAM Address A5	119	XCS3	O	Spare 3 of chip select
16	A6	O	DRAM Address A6	120	MTICIN	I	MIDI time code input
17	A7	O	DRAM Address A7	121	EXTIOB0	I/O	Extension port B of bit 0
18	A8	O	DRAM Address A8	122	EXTIOB1	I/O	Extension port B of bit 1
19	A9	O	DRAM Address A9	123	EXTIOB2	I/O	Extension port B of bit 2
20	A10	O	DRAM Address A10	124	EXTIOB3	I/O	Extension port B of bit 3
21	A11	O	DRAM Address A11	125	(VSS)		Ground
22	VSS		Ground	126	EXTIOB4	I/O	Extension port B of bit 4
23	VDD		Power supply	127	EXTIOB5	I/O	Extension port B of bit 5
24	DBCK	I	DDATA I/O Bit clock	128	EXTIOB6	I/O	Extension port B of bit 6
25	DLRCK	I	LCK for DIF	129	EXTIOB7	I/O	Extension port B of bit 7
26	MCKI	O	Clock input for DIF	130	VDD		Power supply
27	MCKO	O	Clock output for DIF	131	VSS		Ground
28	DMCKO	O	Master clock output	132	ACLK	O	Clock for ATRAC data transfer transmission
29	XRAS	O	DRAM RAS signal	133	XLATPB	O	Command data latch pulse for ATRAC (PB)
30	XUCAS	O	DRAM CAS signal (HIGH BYTE)	134	XABSPB	O	Busy flag for ATRAC (PB)
31	XLCAS	O	DRAM CAS signal (LOW BYTE)	135	ADTOB	O	ATRAC decode data output (PB)
32	XWE	O	DRAM write signal	136	AC2B	O	C2 error flag for ATRAC (PB)
33	XOE	O	DRAM read signal	137	XARQPB	I	Data demand signal from ATRAC (PB)
34	(VSS)		Ground	138	DECB	I	ATRAC decode data input (PB)
35	D0	I/O	DRAM data Bit 0	139	XLATPA	O	Command data latch pulse for ATRAC (PA)
36	D1	I/O	DRAM data Bit 1	140	XABSPA	O	Busy flag for ATRAC (PA)
37	D2	I/O	DRAM data Bit 2	141	ADTOA	O	ATRAC decode data output (PA)
38	D3	I/O	DRAM data Bit 3	142	AC2A	O	C2 error flag for ATRAC (PA)
39	D4	I/O	DRAM data Bit 4	143	XARQPA	I	Data demand signal from ATRAC (PA)
40	D5	I/O	DRAM data Bit 5	144	DECA	I	ATRAC decode data input (PA)
41	VSS		Ground	145	VDD		Power supply
42	D6	I/O	DRAM data Bit 6	146	XLATRB	O	Command data latch pulse for ATRAC (RB)
43	D7	I/O	DRAM data Bit 7	147	XABSRB	O	Busy flag for ATRAC (RB)
44	D8	I/O	DRAM data Bit 8	148	ADTIB	I	ATRAC encode data input (RB)
45	D9	I/O	DRAM data Bit 9	149	XARORB	I	Data demand signal from ATRAC (RB)
46	D10	I/O	DRAM data Bit 10	150	ENCB	O	Signal output for ATRAC encode(RB)
47	D11	I/O	DRAM data Bit 11	151	XLATRA	O	Command data latch pulse for ATRAC (RA)
48	D12	I/O	DRAM data Bit 12	152	XABSORA	O	Busy flag for ATRAC (RA)
49	D13	I/O	DRAM data Bit 13	153	ADTIA	I	ATRAC encode data input (RA)
50	D14	I/O	DRAM data Bit 14	154	XARORA	I	Data demand signal from ATRAC (RA)
51	D15	I/O	DRAM data Bit 15	155	ENCA	O	Signal output for ATRAC encode(RA)
52	VDD		Power supply	156	VDD		Power supply
53	GND		Ground	157	GND		Ground
54	XCSRA	O	Chip select signal (for SRAM)	158	A1024FS	O	Quartz Crystal output (1024Fs)
55	SFCLK	O	Sound frame synchronized clock	159	A256FS	O	Quartz Crystal output (256Fs)
56	XSAS	I	CPU address strobe signal	160	XABCK	O	Quartz Crystal output (64Fs)
57	XSWRH	I	CPU write signal (HIGH BYTE)	161	ABCK	O	Quartz Crystal output (64Fs reverse)
58	XSWRL	I	CPU write signal (LOW BYTE)	162	ALRCK	O	Sampling frequency output for audio
59	XSRD	I	CPU read signal	163	(GND)		Ground
60	XINT	O	Interrupt flag output	164	DAB	O	DA signal output (CH3,4)
61	XLAT	I	ATRAC command data latch pulse signal	165	ADB	I	AD signal input (CH3,4)
62	XRST	I	Reset signal	166	DA	O	DA signal output (CH1,2)
63	XTCL	I	Reset signal for test	167	ADA	I	AD signal input (CH1,2)
64	VCC		Power supply	168	VCC		Power supply
65	XBUSY	O	CPU wait signal output	169	MTCOUT	O	MIDI time code output (reverse)
66	SD15	I/O	CPU data Bit 15	170	TOSEL 4	I	Test mode select input 4
67	SD14	I/O	CPU data Bit 14	171	TOSEL 3	I	Test mode select input 3
68	SD13	I/O	CPU data Bit 13	172	TOSEL 2	I	Test mode select input 2
69	SD12	I/O	CPU data Bit 12	173	TOSEL 1	I	Test mode select input 1
70	SD11	I/O	CPU data Bit 11	174	TOSEL 0	I	Test mode select input 0
71	SD10	I/O	CPU data Bit 10	175	TEST 7	O	Test signal output 7
72	SD9	I/O	CPU data Bit 9	176	TEST 6	O	Test signal output 6
73	SD8	I/O	CPU data Bit 8	177	TEST 5	O	Test signal output 5
74	SD7	I/O	CPU data Bit 7	178	TEST 4	O	Test signal output 4
75	SD6	I/O	CPU data Bit 6	179	TEST 3	O	Test signal output 3
76	SD5	I/O	CPU data Bit 5	180	VRCKI	I	Counter clock input
77	SD4	I/O	CPU data Bit 4	181	VRCKO	O	Counter clock output
78	GND		Ground	182	GND		Ground
79	VCC		Power supply	183	VCC		Power supply
80	MIDCKI	I	Clock input for MIDI	184	VCOI	I	Clock input for PLL
81	MIDCKO	O	Clock output for MIDI	185	VCOO	O	Clock output for PLL
82	SD3	I/O	CPU data Bit 3	186	TEST 2	O	Test signal output 2
83	SD2	I/O	CPU data Bit 2	187	TEST 1	O	Test signal output 1
84	SD1	I/O	CPU data Bit 1	188	TEST 0	O	Test signal output 0
85	SD0	I/O	CPU data Bit 0	189	PDOUTN	O	Phase comparison output
86	SA13	I	CPU address A13	190	PDOUTP	O	Phase comparison output
87	SA12	I	CPU address A12	191	EXTIOCO	I/O	Expansion port C of bit 0
88	SA11	I	CPU address A11	192	EXTIOC1	I/O	Expansion port C of bit 1
89	SA10	I	CPU address A10	193	EXTIOC2	I/O	Expansion port C of bit 2
90	SA9	I	CPU address A9	194	EXTIOC3	I/O	Expansion port C of bit 3
91	SA8	I	CPU address A8	195	EXTIOC4	I/O	Expansion port C of bit 4
92	SA7	I	CPU address A7	196	EXTIOC5	I/O	Expansion port C of bit 5
93	GND		Ground	197	GND		Ground
94	SA6	I	CPU address A6	198	EXTIOC6	I/O	Expansion port C of bit 6
95	SA5	I	CPU address A5	199	EXTIOC7	I/O	Expansion port C of bit 7
96	SA4	I	CPU address A4	200	EXTIOD0	I/O	Expansion port D of bit 0
97	SA3	I	CPU address A3	201	EXTIOD1	I/O	Expansion port D of bit 1
98	SA2	I	CPU address A2	202	EXTIOD2	I/O	Expansion port D of bit 2
99	SA1	I	CPU address A1	203	EXTIOD3	I/O	Expansion port D of bit 3
100	SA0	I	CPU address A0	204	EXTIOD4	I/O	Expansion port D of bit 4
101	SA16	I	CPU address A16	205	EXTIOD5	I/O	Expansion port D of bit 5
102	SA17	I	CPU address A17	206	EXTIOD6	I/O	Expansion port D of bit 6
103	SA18	I	CPU address A18	207	EXTIOD7	I/O	Expansion port D of bit 7
104	VCC		Power supply	208	VCC		Power supply

● AK4520A-VF-E2 (XT802A00) DAC & ADC MAIN IC301

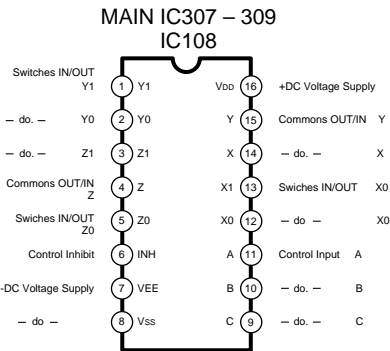
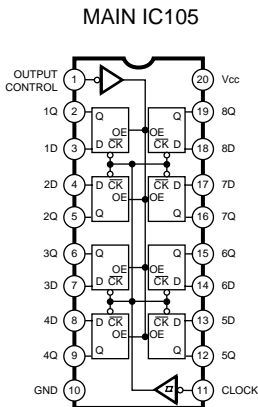
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VREFH	I	Positive Voltage Reference Input, VA	15	MCLK	I	Master Clock Input
2	VREFL	I	Negative Voltage Reference Input, AGND	16	DEM0	I	De-emphasis Frequency Select
3	AINR+	I	Rch Analog Positive Input	17	DEM1	I	De-emphasis Frequency Select
4	AINR-	I	Rch analog Negative Input	18	TST3	I/O	} Test Pins (Pull Down Pins)
5	AINL+	I	Lch Analog Positive Input	19	TST2	I/O	
6	AINL-	I	Lch analog Negative Input	20	TST1	I	
7	VA	-	Analog Power Supply	21	VD	-	
8	AGND	-	Analog Ground	22	DGND	-	Digital Power Supply
9	DIF0	I	Audio Data Interface Format	23	/PWDA	I	Digital Ground
10	DIF1	I	Audio Data Interface Format	24	/PWAD	I	DAC power-Down Mode
11	LRCK	I	Input/Output Channel Clock	25	CMODE	I	ADC power-Down Mode
12	SCLK	I	Audio Serial Data Clock	26	AOCTL	O	Master Clock Select ("H":384 fs, "L":256 fs)
13	SDTI	I	Audio Serial Data Input	27	AOUTR	O	Lch Analog Output
14	SDTO	O	Audio Serial Data Output	28	VCOM	O	Rch Analog Output
							Common Voltage Output, VA/2

■ IC BLOCK DIAGRAM

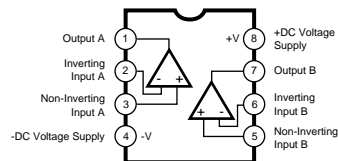
- TC74HCU04AF-TP1 (XD660A00)
Hex Inverter
- TC74HC14AF-TP1 (XD657A00)
Hex Inverter
- SN74HC174NSR (XD836A00)
Hex D-Type Flip-Flop



- SN74HC374ANSR (XQ042A00)
Octal 3-State D-Type Flip-Flop
- TC4053BF (XB738A00)
TC74HC4053AF (XR150A00)
Multiplexer/Demultiplexer
- NJM4558MT-1 (IG103520)
NJM2068MD-T1 (XJ553A00)
NJM4556AMT1 (XQ138A00)
μPC4570G2 (XF291A00)
Dual Operational Amplifier

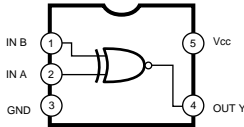


MIX IC103 – 112
IC115, 120, 101, 102, 113, 114,
116 – 118, 119
MAIN IC303 – 306, 310, 311



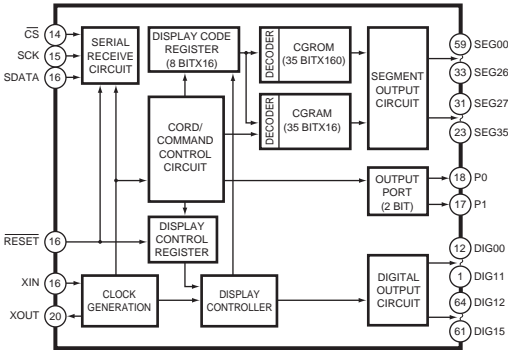
- **TC7S86F1** (XR681A00)
Exclusive OR Gate

MAIN IC114



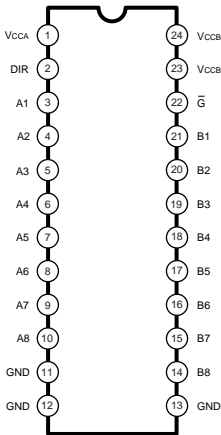
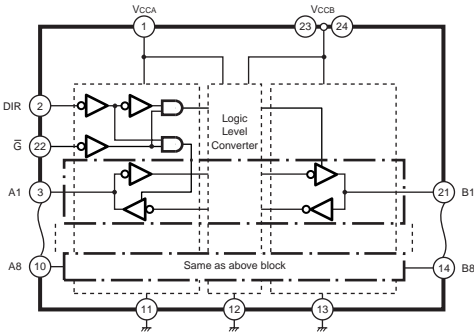
- **M66004SP** (XN173A00)
16 Digit 5 X 7 Sement VFD Controller

SUB IC801



- **TC74LVC4245FS** (XU229A00)
Dual Supply Octal Bus Transceiver

MAIN IC202



INPUTS	DIR	OUTPUTS	FUNCTION	
			A-BUS	B-BUS
L	L	A=B	OUTPUT	INPUT
L	H	B=A	INPUT	OUTPUT
H	X	Z	High Impedance	

X : Don't Care
Z : High Impedance

● EPROM(IC104)REMOVAL AND INSTALLATION

1. Removing the EPROM

- 1-1 Insert a sharp tweezers into the gap of socket and lift the one side of EPROM by hooking it. When the one side is raised, insert the tweezers into other gap and lift the EPROM as well. (Fig. 1, Fig. 2 and Fig. 3)
- 1-2 Repeat the procedure in 1-1 alternately to remove the EPROM.

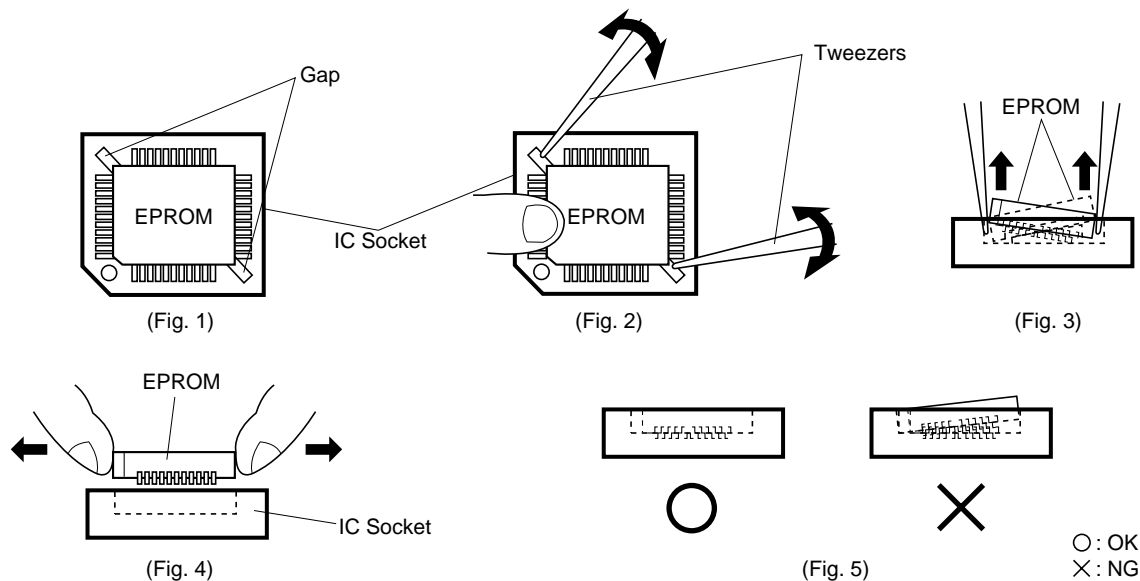
Note: If the tweezers is hooked too strongly, the EPROM jumps up and breaks. Remove the EPROM by pressing down with a finger as shown in Fig. 2.

2. Installation of the EPROM

- 2-1 Put the EPROM on the socket, then check that the EPROM moves slightly by moving it gently with a finger. (Fig. 4)
- 2-2 Set the EPROM into the socket by pressing down until it clicks. (Fig. 5)

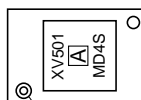
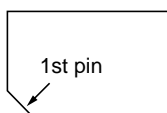
Note: Be sure to check the following items after the installation of EPROM.

1. Four corners of EPROM are securely fit in the frame.
2. There is no damage with hooks or defective hooking.



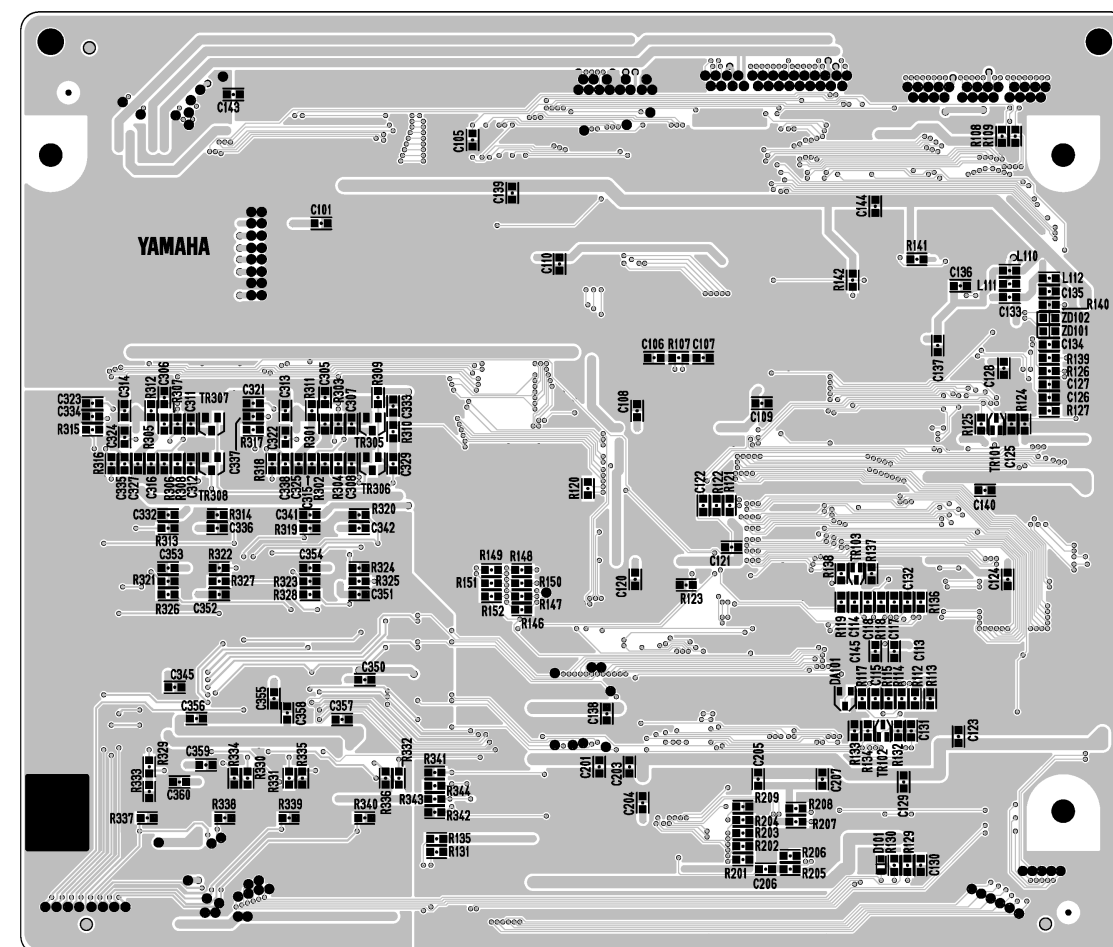
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Components side imprint

IC 104 (XV501A00, EPROM with label)



1st pin (Double circle side)

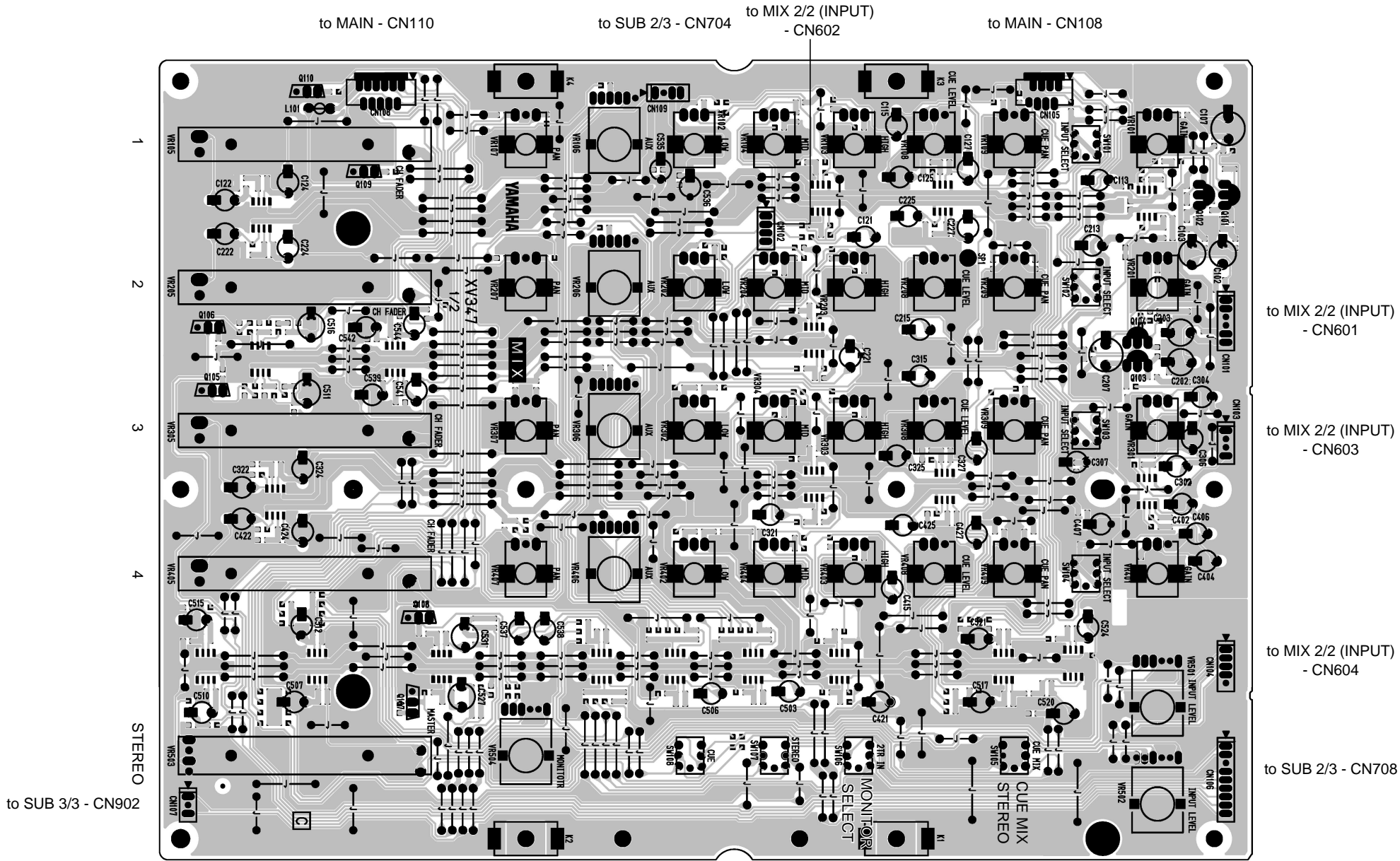
- **MAIN Circuit Board**



Pattern side

Note : See parts list for details of circuit board component parts.

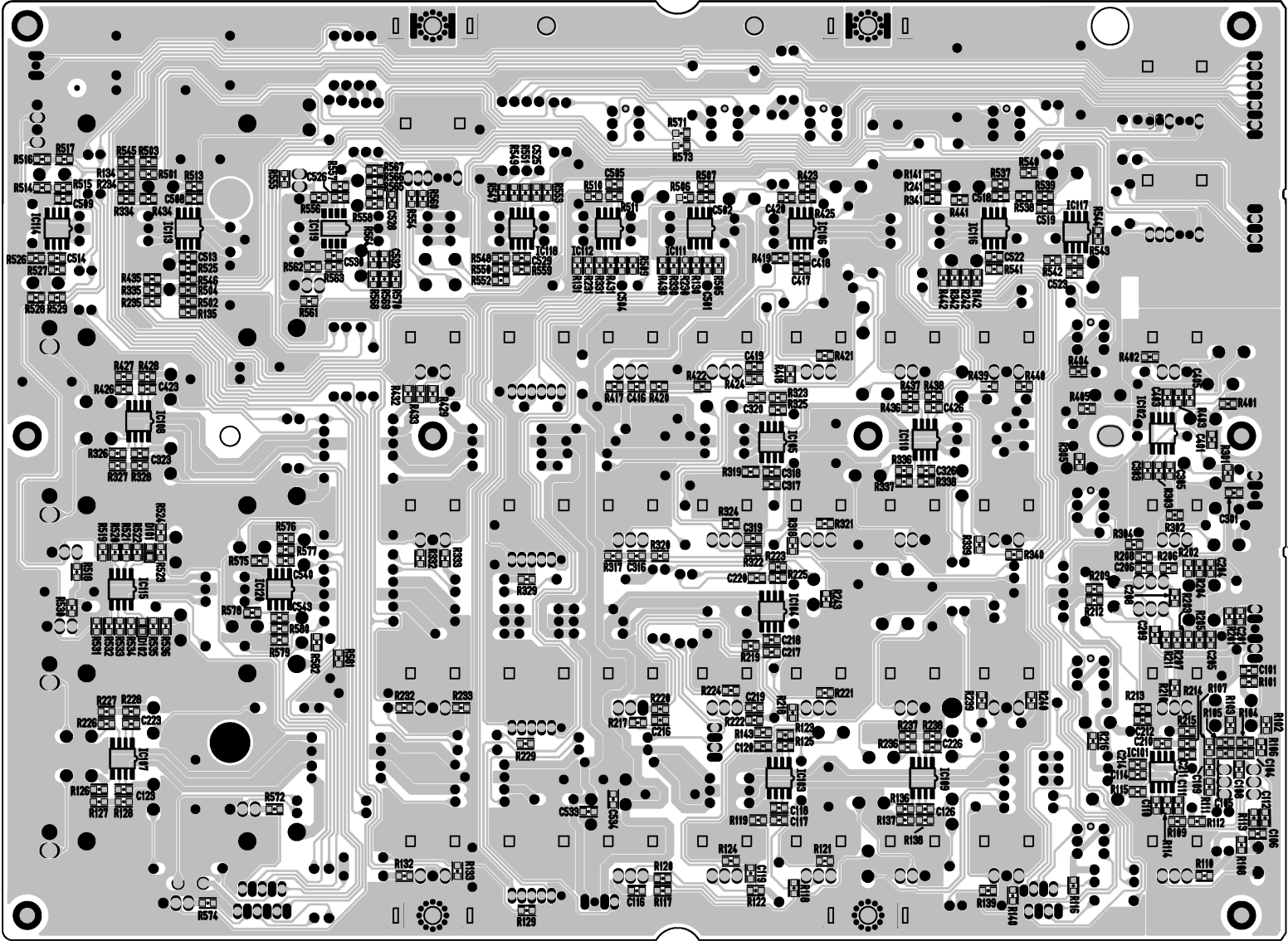
MIX 1/2 Circuit Board



Component side

Note : See parts list for details of circuit board component parts.

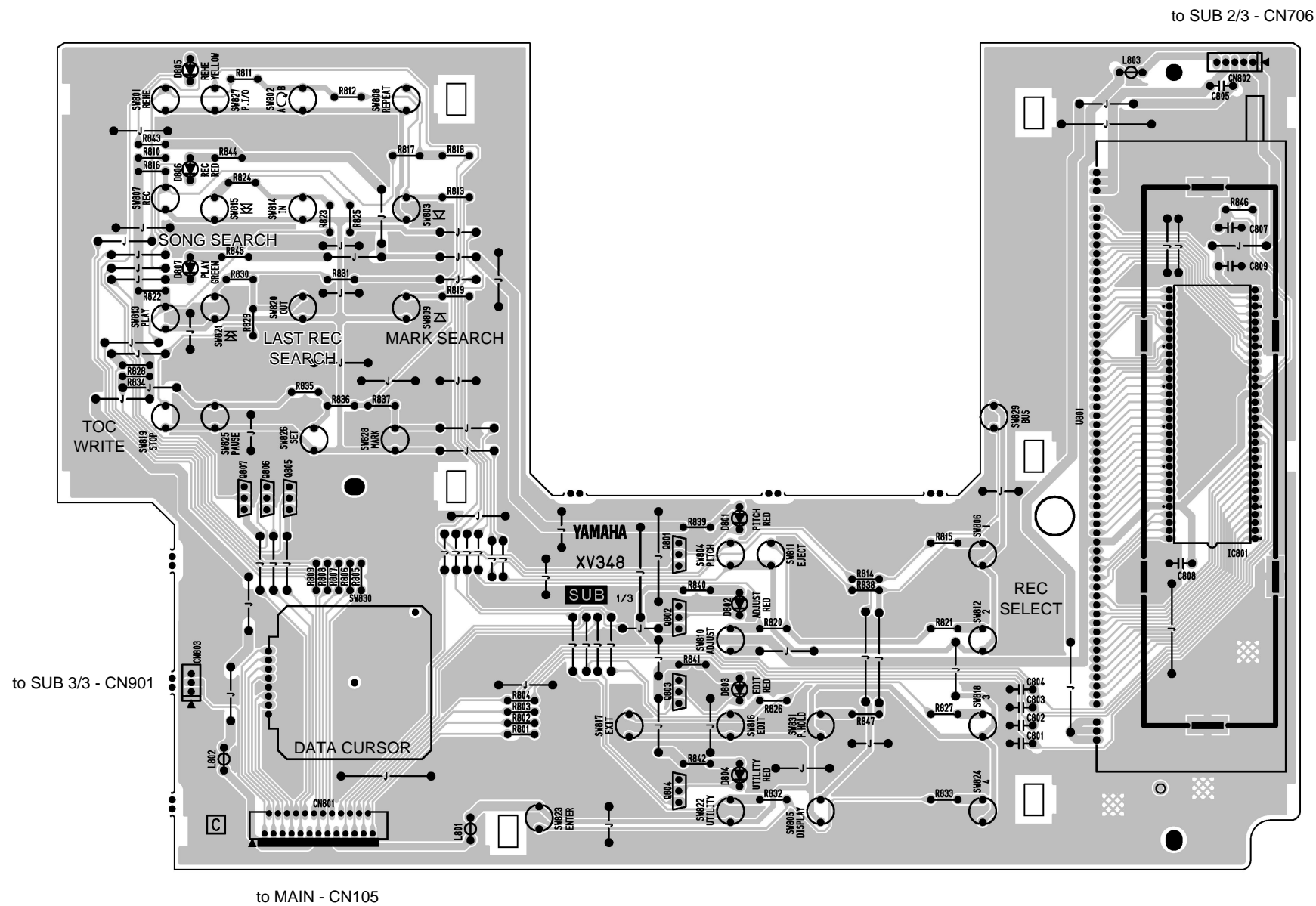
● MIX 1/2 Circuit Board



Pattern side

Note : See parts list for details of circuit board component parts.

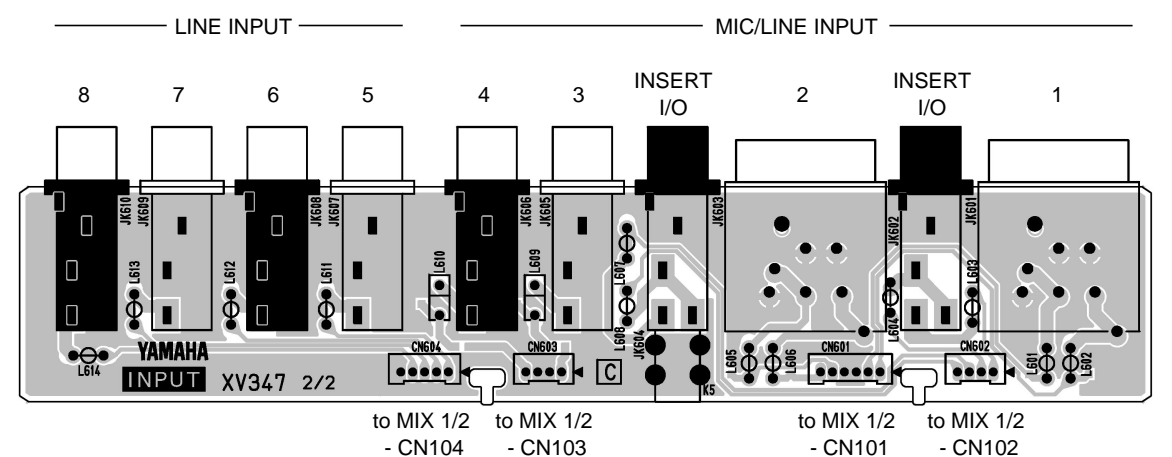
● SUB 1/3 Circuit Board



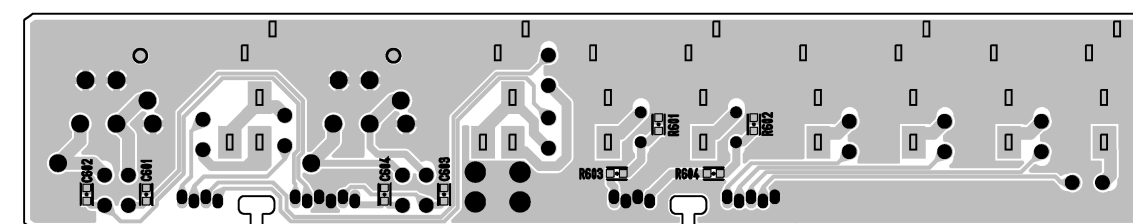
Component side

Note : See parts list for details of circuit board component parts.

● MIX 2/2 (INPUT) Circuit Board

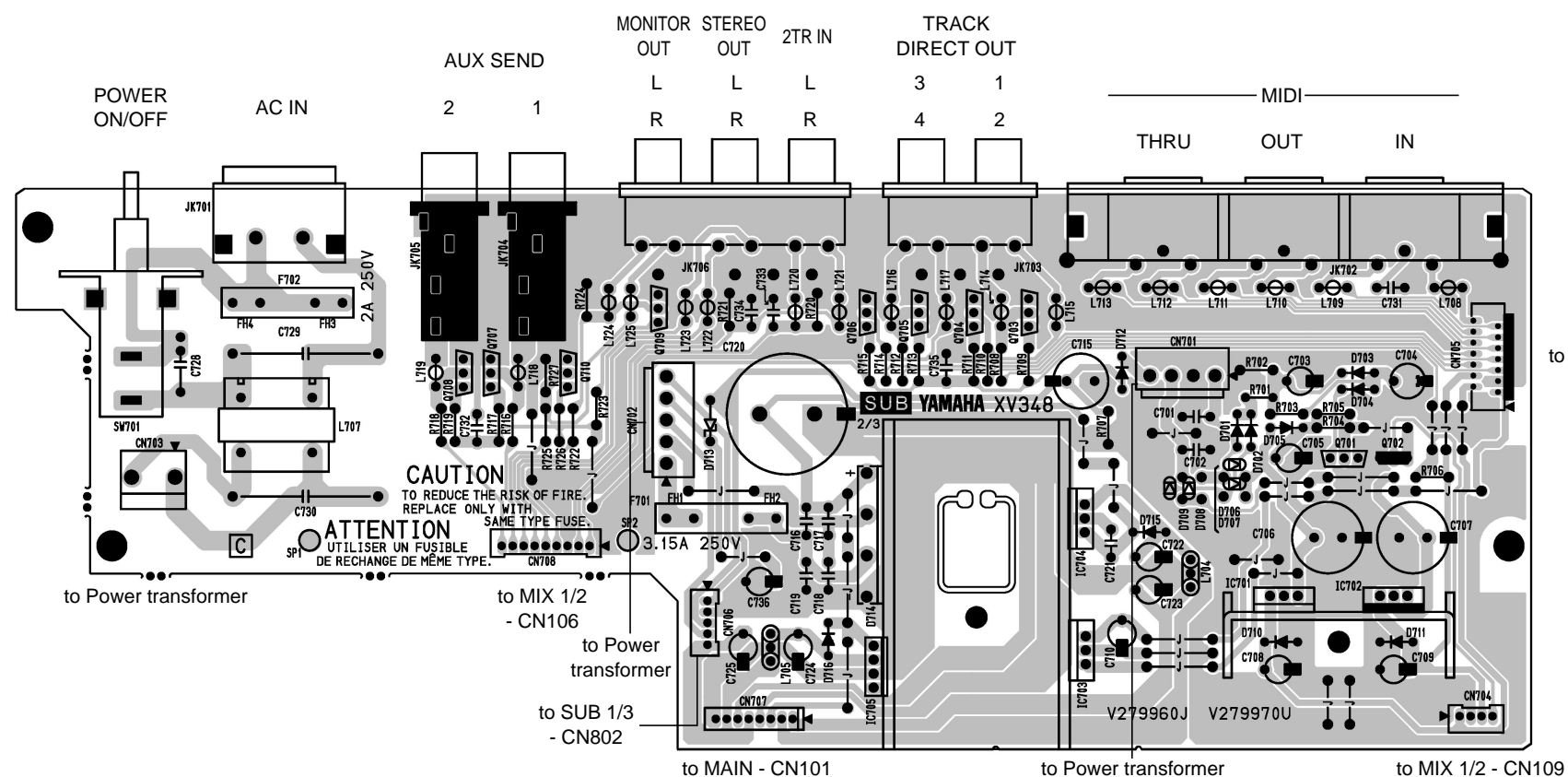


Component side



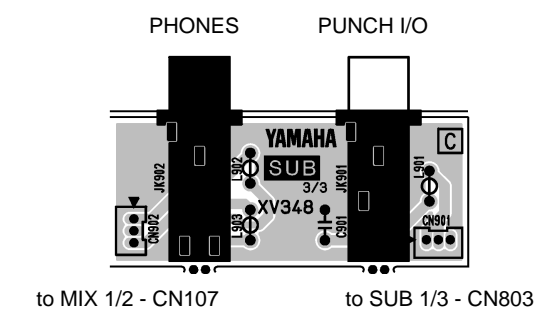
Pattern side

● SUB 2/3 Circuit Board



Component side

● SUB 3/3 Circuit Board



Component side

Note : See parts list for details of circuit board component parts.

MIX 2/2 (INPUT) : 3NA-V279950
SUB 2/3, SUB 3/3 : 3NA-V279960

■ ERROR MESSAGES

Message	Meaning
ADJST Stop	The STOP button was pressed, so the Adjust function was cancelled.
BLANK X	The MD4S is located at the Blank Top position.
Blank Disc	The disc is blank.
Can't Comb	MD4S cannot combine these two songs because they were not split using the Song Divide function, or MD4S cannot edit this type of song.
Can't Copy	This song cannot be copied because it's copy protected.
Can't REC	The MD4S cannot record over this type of song, so you cannot overwrite this song.
Can't Rehe	The MD4S does not have permission to record in this mode, so you cannot rehearse a recording that would overwrite this song.
CLK OFF!	MIDI Clock was turned OFF automatically because you selected the Program Play or Cue List function.
Copy Stop	The STOP button was pressed, so the Song Copy, Track Copy, Part Copy, or Cue List Copy function was cancelled.
DiscErr xx	A disc scratch or defect was discovered while recording. Replace the disc.
Disc FULL	The disc is full. You cannot record any more data or additional takes (Multi Take Auto Punch In).
Erase Stop	The STOP button was pressed, so the Track Erase or Part Erase function was cancelled.
Erase Warn!	This song has been write protected by another recorder. Press the ENTER button to erase or the EXIT button to cancel.
Error xx	A fatal error occurred. Contact your Yamaha dealer.
IN/OUT Err	The IN or OUT point is not valid, so you cannot use Auto Punch In/Out.
InvalidSong	Since this song is not compatible with the MD4S, it cannot be played.
List Error	The cue list is invalid.
MARK Failed	No more markers can be inserted because the song contains the maximum of eight, or you tried to insert a marker at the position of an existing marker.
Move Stop	The STOP button was pressed, so the Song Move function was cancelled.
MTC OFF!	MTC was turned OFF automatically because you selected the Program Play or Cue List function.
No Blank	No blank area can be found for further recording.
No Disc	No disc is loaded.
PNCH Abort	Because the STOP button was pressed, the off-line punch-in/out function was aborted.
Protected	The disc's write protect tab is set to protect, so you cannot record.
Reading TOC	The MD4S is reading the TOC from disc.
Reload Disc	The MD4S is waiting for you to reload the disc.
Save Warn !	Not all the Tempo Map steps can be saved because the data area is full.
UTOC FULL	The TOC area is full, so not all of the song title or Tempo Map could be saved.
Writing TOC	The MD4S is writing the TOC to disc.

■ INSPECTION SPECIFICATION

1. Composition

1-1. INPUTS

MIC/LINE (XLR)	CH1, 2 Balanced
MIC/LINE (PHONE)	CH1, 2 Balanced /Unbalanced
MIC/LINE (PHONE)	CH3, 4 Unbalanced
LINE (L · R) (PHONE)	CH5/6, 7/8 Unbalanced
INSERT IN	CH1, 2
2TR IN (L · R)	1

1-2. OUTPUTS

TRACK DIRECT OUT	TR1 – 4
INSERT OUT	CH1, 2
AUX SEND	2
STEREO OUT (L · R)	1
MONITOR OUT (L · R)	1
PHONES (STEREO)	1

1-3. CONTROLS

1-3-1. CH INPUTS

GAIN VOLUME	CH1 – 4
HIGH EQ GAIN	CH1 – 4
MID EQ GAIN	CH1 – 4
LOW EQ GAIN	CH1 – 4
AUX VOLUME	CH1 – 4
CUE PAN CONTROL	CH1 – 4
CUE LEVEL	CH1 – 4
INPUT SELECT SWITCH	CH1 – 4
PAN CONTROL	CH1 – 4
CH FADER	CH1 – 4

1-3-2. LINE INPUTS

INPUT LEVEL	CH5/6, 7/8
-------------------	------------

1-3-3. MASTER

MASTER FADER	1
CUE MIX TO STEREO SWITCH ..	1

1-3-4. MONITOR

2TR IN SWITCH	1
STEREO SWITCH	1
CUE SWITCH	1
MONITOR LEVEL	1

1-4. FUNCTION

1-4-1. REC SELECT KEY

CH1 (BUS L)
CH2 (BUS R)
CH3 (BUS L)
CH4 (BUS R)

1-4-2. MECHANISM CONTROL KEY

REHE
REC
PLAY
STOP
PAUSE

1-4-3. OTHERS KEY

EJECT
PEAK HOLD
DISPLAY
PITCH
ADJUST
EDIT
UTILITY
EXIT
ENTER
REPEAT
A/B
MARK SEARCH
MARK
LAST REC SEARCH
SET
AUTO PUNCH I/O
SONG SEARCH
JOG/DATA
SHUTTLE/CURSOR

1-5. METER & INDICATORS

1-5-1. LEVEL METER

FL DISPLAY 9 seg. (TR1 – 4, STEREO L,R)

1-5-2. LED INDICATORS

PITCH
ADJUST
EDIT
UTILITY
REHE
REC
PLAY

1-5-3. OTHERS

PUNCH I/O FOOT SWITCH JACK
POWER SWITCH
MIDI IN
MIDI OUT
MIDI THRU

2. Preparation

2-1. Standard state

The disk is assumed to be in a state where there are no specifications, and the volume and switches are set as follows.

CH INPUT

GAIN VOLUME	MINIMUM (LINE)
HIGH EQ GAIN	CENTER
MID EQ GAIN	CENTER
LOW EQ GAIN	CENTER
AUX LEVEL	CENTER
CUE PAN CONTROL	CENTER
CUE LEVEL	MINIMUM
INPUT SELECT SWITCH	MIC/LINE
PAN CONTROL	CENTER
CH FADER	MINIMUM

LINE INPUTS

INPUT LEVEL MINIMUM

MASTER

CUE MIX TO STEREO SWITCH OFF

MASTER FADER MINIMUM

MONITOR

2TR IN SWITCH OFF

STEREO SWITCH OFF

CUE SWITCH OFF

MONITOR LEVEL MINIMUM

- 2-2. The standard input signal is made when the sign wave is 1 kHz, -10 dBm with the Jack opened, and the load resistance of each output terminal is assumed to be the following.

TRACK DIRECT OUT 10 k ohm

INSERT OUT 10 k ohm

AUX SEND 10 k ohm

STEREO OUT 10 k ohm

MONITOR OUT 10 k ohm

PHONES (STEREO) 40 ohm

2-3. Use disk

Disk for recording reproduction:

SONY MD DATA 140 MB
(MMD-140 or MMD-140 A)
V3025900T

TEST DISC 1: SONY MD AUDIO TEST 1
(TGYS1) TX800720

TEST DISC 2: Record the signal of "1 kHz -20
dBm" from truck1 to truck4 on the
disk for recording reproduction.

TEST DISC 3: MMD-351 (Respect swinging 0.4
mm) TX800730

TEST DISC 4: HTM-103 MO (Eccentric 100
μm) TX800740

2-4. Measurement

Low frequency oscillator

AC voltage meter

Distortion meter

CD filter amplifier (AMP-Z06)

MIDI equipment which corresponds to MTC

MIDI equipment which corresponds to MIDI
CLOCK

MIDI equipment which corresponds to MMC

3. Special Mode

3-1. Method of confirming the ROM version

When the power supply is turned on with the
[UTILITY] key pressed, the ROM version is
displayed as the following.

"MD4S V1.00"

3-2. Error Message

An error message is displayed on the FL display tube as follows when the MD mechanism and the main circuit board operation are abnormal.

Error message	Incorrect
DISC ERROR	
00	There is abnormal MD.
01	Recording Re-try Failure
02	Recording Data Overflow
03	Lack of play Data (to indicate data overflow at Recording)
04	Address Inconsistency at Recording (to indicate data overflow at Recording)
ERROR	
10	Pickup does not move to the inside.
11	Pickup does not move to the outside.
20	The magnetic head does not drop.
21	The magnetic head does not rise.
30	Spindle Error
40	Focus Error
50	Tracking Error
ERROR	
F0	MD mechanism communication error (SENSE Signal)
F1	MD mechanism communication error (EEPROM)
F2	MD mechanism EEPROM checks the sum error

3-3. About the DIAG

Foot switch [FC5] is connected to the PUNCH I/O JACK, and the MIDI cable is connected between the MIDI IN and MIDI OUT.

The display "D0 : DIAG IN" will appear on the FL display tube when the power supply switch is turned on while pressing the [DISPLAY] key and the [SET] key.

It will then enter the following check modes. The following check mode: the [FL/LED] display, the operation key, [JOG/SHUTTLE], and the [MIDI/I/O] check function.

In this state, the mixer's input signal goes directly from AD to DA and is output.

Selection of check program

Each check program is selected by pressing the [MARK SEARCH | <] or the [MARK SEARCH > |] key. Each program starts when the [ENTER] key is pressed.

Response of OK or NG (Item's which the CPU judges)

[OK] or [NG] is displayed on the fluorescent display tube.

The following ASCII code in two bytes is output to the terminal MIDI OUT.

OK 4F, 4B

NG 4E, 47

<Check procedure>

Press the [MARK SEARCH > |] key. When "D1 : FL/LED" is displayed, press the [ENTER] key.

Confirm that the fluorescent display and the LED display light normally.

Press the [MARK SEARCH >] key. When "D2 : SWITCH" is displayed, confirm that all keys are working, then press the [ENTER] key.

Press the [MARK SEARCH >] key. When "D3 : JOG" is displayed, confirm that the JOG Dial operation has been accepted, then press the [ENTER] key.

Press the [MARK SEARCH >] key. When "D4 : SHUT" is displayed, confirm that the SHUTTLE operation has been accepted, then press the [ENTER] key.

Press the [MARK SEARCH >] key. When "D5 : MIDI I/O" is displayed, confirm that the MTC and the MIDI CLOCK signals appear then press the [ENTER] key.

Press the [MARK SEARCH >] key. When "D6 : ROM INIT" is displayed, execute the initialization of the IC of the main circuit board by pressing the [ENTER] key.

Press the [MARK SEARCH >] key. When the "D7 : EXIT" is displayed, press the [ENTER] key.

The mode returns to the ordinary mode when the inspections from D1 to D6 are finished.

When the ending is not normal the display will show "NOT END".

Press the [MARK SEARCH >] key several times. When the "D8 : ATRAC" is displayed, press the [ENTER] key. The signal from the mixer will go from AD to ATRAC and then to DA by passing the MD recording and playing circuit.

Make the display to "Df : RESET" and press the [ENTER] key. The mode is forced to return to the ordinary mode.

4. Electric characteristic

4-1. MIXER SECTION

No.	Item	Standard	Condition
1	Gain between LINE IN and ST OUT (LINE)	CH1, 2 Balanced : +2.0 +/-2 dBm Unbalanced : +2.0 +/-2 dBm CH3, 4 : +2.0 +/-2 dBm CH5 - 8 : +2.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH1 - 4LINE IN : Standard input • OUTPUT STEREO OUT L/R • CH (CH1 - 4), MASTER FADER Maximum • INPUT VOLUME (CH5 - 8) Maximum • Other conditions are in standard state. <p>*The stereo level meters must light up to +12 or +9 dBm.</p>
2	Gain between LINE IN and ST OUT (MIC)	CH1, 2 Balanced : +2.0 +/-3 dBm Unbalanced : +2.0 +/-3 dBm CH3, 4 : +2.0 +/-3 dBm	<ul style="list-style-type: none"> • INPUT CH1 - 4LINE IN : -50 dBm, 1 kHz • OUTPUT STEREO OUT L/R • GAIN VOLUME Maximum • CH, MASTER FADER Maximum • Other conditions are in standard state.
3	Gain between LINE IN and AUX OUT	CH1, 2 Unbalanced : -4.0 +/-2 dBm CH3, 4 : -4.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH1 - 4LINE IN : Standard input • OUTPUT AUX SEND OUT 1, 2 • AUX VOLUME Maximum (1 or 2) • CH FADER Maximum • Other conditions are in standard state.
4	Gain between LINE IN and CUE MIX TO STEREO	CH1, 2 Unbalanced : +2.0 +/-2 dBm CH3, 4 : +2.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH1 - 4LINE IN : Standard input • OUTPUT STEREO OUT L/R • INPUT SELECT SWITCH : PB • CUE LEVEL Maximum • CUE MIX TO STEREO SWITCH : ON • MASTER FADER Maximum • Other conditions are in standard state.
5	Gain between LINE IN and INSERT OUT	CH1, 2 : -10 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH1, 2LINE IN : Standard input • OUTPUT INSERT OUT 1, 2 • Other conditions are in standard state.
6	Gain between INSERT IN and STEREO OUT	CH1, 2 : +2.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT INSERT IN1, 2 : Standard input • OUTPUT STEREO OUT L/R • CH, MASTER FADER Maximum • Other conditions are in standard state.
7	Gain between 2TR IN and MONITOR OUT	-4.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT 2TR IN : Standard input • OUTPUT MONITOR OUT L/R • MONITOR SELECT : 2TR IN • MONITOR LEVEL Maximum • Other conditions are in standard state.

No.	Item	Standard				Condition
8	Gain between LINE IN and MONITOR OUT	-2.0 +/-2 dBm				<ul style="list-style-type: none"> • INPUT CH3LINE IN : -20 dBm, 1 kHz • OUTPUT MONITOR OUT L/R • MONITOR SELECT :STEREO • MONITOR LEVEL Maximum • CH, MASTER FADER Maximum • Other conditions are in standard state.
9	HEADPHONES	100 – 140 (mW)				<ul style="list-style-type: none"> • INPUT CH3LINE IN : 1kHz • OUTPUT PHONES L/R : RL=40 ohm • MONITOR SELECT : STEREO • MONITOR LEVEL Maximum • CH, MASTER FADER Maximum <p>*The input level is adjusted at the level that the distortion of the output crimp becomes 5 %.</p>
10	EQ change characteristic		GAIN	f	LEVEL	<ul style="list-style-type: none"> • INPUT CH1 – 4LINE IN : -20 dBm • OUTPUT STEREO OUT L/R • CH, MASTER FADER Maximum • Other conditions are in standard state. <p>*It is a minimum, and an amount of the change in maximization as for each gain of HIGH, MID, and LOW.</p>
		HIGH	MAX MIN	10 kHz	+12 +/-3 dB -12 +/-3 dB	
		MID	MAX MIN	2.5 kHz	+15 +/-3 dB -15 +/-3 dB	
		LOW	MAX MIN	100 Hz	+12 +/-3 dB -12 +/-3 dB	
11	Frequency characteristic	+1 – -3 dB (20 – 20 kHz)				
12	Distortion	<ul style="list-style-type: none"> • CH1, 2 Unbalanced LINE ST OUT : 0.03 % As follws AUX OUT : 0.03 % As follws MIC ST OUT : 0.06 % As follws Balanced LINE ST OUT : 0.03 % As follws AUX OUT : 0.03 % As follws MIC ST OUT : 0.06 % As follws • CH3, 4 LINE ST OUT : 0.03 % As follws AUX OUT : 0.03 % As follws MIC ST OUT : 0.06 % As follws 				<ul style="list-style-type: none"> • INPUT CH1 – 4LINE IN : 1 kHz • OUTPUT STEREO, AUX SEND OUT • GAIN VOLUME : Maximum or Minimum • CH, FADER Maximum (Only the input channel) • MASTER FADER Maximum (ST OUT) • AUX VOLUME Maximum (1 or 2) (Only the input channel) (AUX SEND OUT) <p>*The input level is the same as clause 1, clause 2, and clause 3. *30 kHz L.P.F</p>
13	Channel separation	(CUE)	LINE IN – STEREO OUT : >/= 45 dB LINE IN – MONITOR OUT : >/= 45 dB			<ul style="list-style-type: none"> • INPUT CH1 – 4LINE IN : Standard input • OUTPUT STEREO OUT L/R • CH, MASTER FADER Maximum • Other conditions are in standard state. • INPUT CH1 – 4LINE IN : Standard input • OUTPUT MONITOR OUT L/R • INPUT SELECT SWITCH : PB • CUE LEVEL Maximum • MONITOR SELECT : CUE • MONITOR LEVEL Maximum • Other conditions are in standard state. <p>*PAN (CUE) and CONTROL are distributed to the right and left, and a right and left difference in the STEREO OUT (MONITOR) is seen.</p>
14	Noise level	CH1, 2 : CH3, 4 :	-70 dBm As follows -66 dBm As follows (IHF-A)			<ul style="list-style-type: none"> • INPUT CH1, 2 It is short-circuited because of the resistance of 150 ohm between HOT – COLD. CH3, 4 It is short-circuited because of the resistance of 150 ohm between HOT – COLD. • OUTPUT STEREO OUT L/R • GAIN VOLUME Maximum • CH FADER Maximum (Only the measurement channel) • MASTER FADER Maximum • Other conditions are in standard state.

No.	Item	Standard	Condition
15	LINE IN – DIRECT OUT (BUS)	+2.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH3 LINE IN : Standard input • OUTPUT TRACK DIRECT OUT1 – 4 • CH MASTER FADER Maximum • CUE LEVEL 3 CENTER <p>* Insert the disk, set the REC SELECT at BUS, this sets the REC PAUSE mode.</p>
	(DIRECT)	-4.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH1 – 4 LINE IN : Standard input • OUTPUT TRACK DIRECT OUT1 – 4 • CH FADER Maximum <p>* The disk is turned on, the RECSELECT is made, and DIR is made a choice recording pose mode.</p> <p>* It is confirmed that the level meter from track1 to track4 lights from between -6 dB and -12 dB</p>
16	Gain between LINE IN – MONITOR OUT	+2.0 +/-2 dBm	<ul style="list-style-type: none"> • INPUT CH3 LINE IN : Standard input • OUTPUT MONITOR OUT L/R • MONITOR SELECT : CUE • INPUT SELECT SW : PB • CUE LEVEL Maximum • MONITOR LEVEL Maximum • Other conditions are in standard state.
17	Phase confirmation	<ul style="list-style-type: none"> • CH1, 2 Balanced <p>The signal obtained with the signal and each output terminal impressed to the input terminal becomes this minister.</p>	<ul style="list-style-type: none"> • INPUT CH1, 2 LINE IN : Standard input • OUTPUT STEREO OUT L/R • CH MASTER FADER Maximum • Other conditions are in standard state.

4-2. AD/DA SECTION (20 kHz L.P.F)

No.	Item	Standard	Condition
1	Reproduction output level	+2.0 +/-1.0 dBm	<ul style="list-style-type: none"> • OUTPUT TRACK DIRECT OUT 1, 2 • TEST DISK 1 (TNO.1) • Standard condition in Play mode.
2	Reproduction frequency characteristic	+/-1 dBm Within (1 kHz Standard)	<ul style="list-style-type: none"> • OUTPUT TRACK DIRECT OUT 1, 2 • TEST DISK 1 (TNO.2 – 13) • Standard condition in Play mode. • 20 Hz – 20 kHz
3	Reproduction noise level	-33 dBm Within (60 dB AMP., W-NETW)	<ul style="list-style-type: none"> • OUTPUT TRACK DIRECT OUT 1, 2 • TEST DISK 1 (TNO.23) • Standard condition in Play mode.
4	Reproduction channel separation	>=84 dB	<ul style="list-style-type: none"> • OUTPUT TRACK DIRECT OUT 1, 2 • TEST DISK 1 (TNO.30, 34) • Standard condition in Play mode.
5	Reproduction distortion	0.015 % As follows	<ul style="list-style-type: none"> • OUTPUT TRACK DIRECT OUT 1, 2 • TEST DISK 1 (TNO.1) • Standard condition in Play mode.
6	Reproduction output level (PB)	-5.0 +/-2.0 dBm	<ul style="list-style-type: none"> • OUTPUT STEREO OUT L/R • TEST DISK 2 • INPUT SELECT SW “PB” • CH FADER Maximum (Only the measurement channel) • MASTER FADER Maximum • Standard condition in Play mode.
7	CUE MONITOR Output level	-5.0 +/-2.0 dBm	<ul style="list-style-type: none"> • OUTPUT MONITOR OUT L/R • TEST DISK 2 • MONITOR PHONES VOLUME Maximum • MONITOR SELECT SWITCH : CUE • CUE LEVEL Maximum (Only the measurement channel) • Standard condition in Play mode.

No.	Item	Standard	Condition
8	Recording reproduction level deflection	+/-1.0 dB Within	<ul style="list-style-type: none"> • INPUT LINE INPUT CH1 – 4 : Standard input • OUTPUT TRACK DIRECT OUT1 – 4 • Recording reproduction disk • CH FADER Maximum • REC SELECT : DIRECT • Other conditions are in standard state. The mode at this time is REC mode or PLAY mode. <p>*Level difference at REC time and PLAY</p>
9	Recording frequency characteristic	+1.0 – -3.0 dB (20 Hz – 20 kHz) (1 kHz Standard)	<ul style="list-style-type: none"> • INPUT LINE INPUT CH1 – 4 : -10 dBm • OUTPUT TRACK DIRECT OUT1 – 4 • Recording reproduction disk • CH FADER Maximum • REC SELECT : DIRECT • Other conditions are in standard state. The mode at this time is REC mode or PLAY mode.
10	Recording reproduction noise level	-28 dBm As follows (60 dB AMP., W-NETW)	<ul style="list-style-type: none"> • OUTPUT TRACK DIRECT OUT1 – 4 • Recording reproduction disk • REC SELECT : DIRECT • Other conditions are in standard state. The mode at this time is REC mode or PLAY mode.
11	Recording reproduction cross talk	>/=80 dB	<ul style="list-style-type: none"> • INPUT LINE INPUT CH1 – 4 : 1 kHz, -6 dBm • OUTPUT TRACK DIRECT OUT1 – 4 • Recording reproduction disk • CH FADER Maximum (Only the input channel) • REC SELECT : DIRECT • Other conditions are in standard state. The mode at this time is REC mode or PLAY mode. <p>*Leakage to other tracks occurs when only one track is inputting a signal, while four tracks are being recorded simultaneously. Check for leakage by replaying.</p>
12	Recording reproduction distortion	0.03 % As follows	<ul style="list-style-type: none"> • INPUT LINE INPUT 5/6 : 1 kHz, -12 dBm • OUTPUT TRACK DIRECT OUT1 – 4 • Recording reproduction disk • INPUT LEVEL Maximum • REC SELECT : BUS • MASTER FADER Maximum • Other conditions are in standard state. The mode at this time is REC mode or PLAY mode.

4-3. MD SECTION

No.	Item	Standard	Condition
1	Own recording reproduction performance of respect swinging disk	The recording reproduction should be able to be done normally.	TEST DISC 3 MMD-351
2	Own deer fort performance of eccentric disk	The recording reproduction should be able to be done normally in TEST. DISC 4	TEST DISC 4 MTM-103MO
3	Foot switch operation	Play mode is confirmed when the footswitch is pressed. Pause mode is resumed by pressing the foot switch again.	TEST DISC 1 The foot switch (FC5) is inserted in the P.I/O Jack.
4	MIDI IN MIDI OUT MIDI THRU	The MMC function must operate normally. MTC and the MIDI CLOCK OUT operation must operate normally when recording. The signal input to MIDI IN is output as is.	The MIDI equipment which corresponds to MMC is connected to MIDI In. The MIDI equipment which corresponds to MTC and MIDI CLOCK OUT is connected to MIDI OUT.

YAMAHA [Multitrack Recorder]
Model : MD4S

MIDI Implementation Chart

Date : 11 02 1998
Version : 1.0

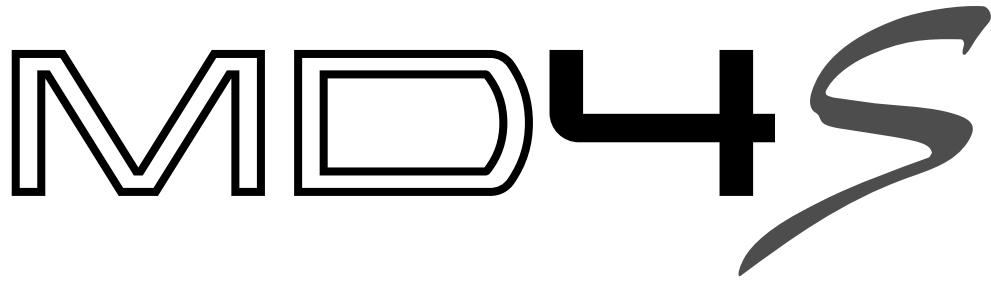
Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	X X	X X	
Mode	Default Messages Altered	X X *****	X X X	
Note Number	True Voice	X *****	X X	
Velocity	Note On Note Off	X X	X X	
After Touch	Keys Ch's	X X	X X	
Pitch bend		X	X	
Control Change		X	X	
Prog Change	:True #	X *****	X X	
System Exclusive		X	O	*1
System Common	:Song Pos :Song Sel :Tune	O X X	X X X	*2
System Real Time	:Clock :Commands	O O	X X	
Aux Messages	:Local ON/OFF :All Notes OFF :Active Sense :Reset	X X X X	X X X X	
Notes		MTC quarter frame messages are received in MTC Sync slave mode MTC quarter frame messages are transmitted in MTC Sync master mode. *1 : MMC *2 : During MIDI Clock synchronization		

Mode 1 : OMNI ON , POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON ,MONO
Mode 4 : OMNI OFF,MONO

O : Yes
X : No

MULTITRACK MD RECORDER



PARTS LIST

■ CONTENTS

OVERALL ASSEMBLY	2
MD MECHANICAL UNIT	3
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Notes : DESTINATION ABBREVIATIONS

A : Australian model	M : South African model
B : British model	O : Chinese model
C : Canadian model	Q : South-east Asia model
D : German model	T : Taiwan model
E : European model	U : U.S.A. model
F : French model	V : General export model (110V)
H : North European model	W : General export model (220V)
I : Indonesian model	X : General export model
J : Japanese model	Y : Export model

■ WARNING

Components having special characteristics are marked  and must be replaced with parts having specifications equal to those originally installed.

- The numbers in "QTY" show quantities for each unit.
- The parts with "- "- in "PART NO." are not available as spare parts.
- The mark "}" in the remarks column indicates that these parts are interchangeable.



REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	---	OVERALL ASSEMBLY		MD4S J (V291320)		
	---	OVERALL ASSEMBLY		MD4S U,C,V (V291330)		
	---	OVERALL ASSEMBLY		MD4S H,B,W (V291340)		
* 10a	NX820350	Circuit Board	MIX 1/2	(XV347C0)		
* 10a-1	V2715000	Knob D12	GY	GAIN,CUE LEVEL1-4,MON LEVEL	9	
* 10a-2	V2715100	Knob D12	GR	HIGH,MID,LOW	12	
* 10a-3	V2715200	Knob D12	BE	AUX1-4,5/6,7/8	6	
* 10a-4	V2715300	Knob D12	RE	PAN,CUE	8	
* 10a-5	V2716400	Knob, Push	BL	MONITOR SELECT	7	
* 10a-6	V2716500	Knob, Push	RE	CUE MAX TO STREO	1	
* 10b	NX820360	Circuit Board	MIX 2/2 (INPUT)	(XV347C0)		
* 20a	NX820370	Circuit Board	SUB 1/3	(XV348C0)		
* 20b	NX820380	Circuit Board	SUB 2/3	J (XV348C0)		
* 20b	NX820390	Circuit Board	SUB 2/3	U,C,V (XV348C0)		
* 20b	NX820400	Circuit Board	SUB 2/3	H,B,W (XV780B0)		
* 20c	NX820410	Circuit Board	SUB 3/3	(XV348C0)		
* 30	V2799900	Circuit Board	MAIN	(XV349B0)		
50	---	Mechanical Unit, MD		(V291360)		
△ * 60	XV350A00	Power Transformer		J		
△ * 60	XV351A00	Power Transformer		U,C,V		
△ * 60	XV352A00	Power Transformer		H,B,W		
* 80	V3331400	Cable	18P 230mm			
* 90	V2932700	Cable	30P 295mm P=0.8			
* 100	V2932900	Cable	25P 235mm P=1.0			
* 110	V2933300	Cable	8P 50mm P=1.0			
* 120	V2933500	Cable	11P 50mm P=1.0			
* 130	V2933600	Cable	14P 150mm P=1.0			
* 140	V2910300	Connector Assembly	ZHR 12P 70L			
* 180	CB040540	Cord Binder	S-72B L=50			01
* 190	CB069250	Cord Holder	BK-1			
* 200	V2712600	Bottom Cover				
* 210	V2712700	Sub Chassis				
* 220	V2712800	Holder, Main				
* 230	V2712900	Holder, Jack				
* 240	V2713000	Support, Jack				
* 250	V3346800	Shield, Input				
* 260	V3026600	Top Cover				
* 280	V2713300	Window				
* 290	V2713400	Cover, Jack				
* 300	V2713500	Button, Locate				
* 310	V2713600	Button Assembly				
* 320	V2713700	Knob, Shuttle		CUSOR		
* 330	V2713800	Knob, Jog		DATA		
* 350	V2714000	Button Assembly				
350a	---	Button A		(V271600)		
350b	---	Button		(VU39470)		
* 360	V2714200	Knob Assembly	BL/WH	Fader1-4		
360a	---	Knob		(V271590)		
360b	---	Plate		(VU61570)		
* 370	V2714300	Knob Assembly	BL/RE	STEREO		
370a	---	Knob		(V271590)		
370b	---	Plate		(VU61610)		
* 380	V2714400	Button, Power		POWER		
* 390	V3210300	Shield Gasket				
400	VZ734300	Foot			4	03
410	V1549000	U-shaped Holder	MET41-0191		4	01
450	---	Label		J (V271450)		
450	---	Label		J (V271480)		
450	---	Label		U,C,V (V271460)		
450	---	Label		U,C,V (V271490)		
450	---	Label		H,B,W (V271470)		
460	---	Label		H,B,W (VV31740)		
490	EG340360	Bind Head Screw	4.0X8 MFZN2BL		2	
500	VA847600	Bind Head Tapping Screw-P	4.0X12 MFZN2BL		4	01
510	EG330360	Bind Head Screw	3.0X6 MFZN2BL			01
520	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		52	01
530	VR602100	Screw	3B -8 Y9294	U,C,V,H,B,W		
600	VE854200	Ferrite Core	ESD-R-25DB	U,C,V,H,B,W		05
		ACCESSORIES				

*:New Parts

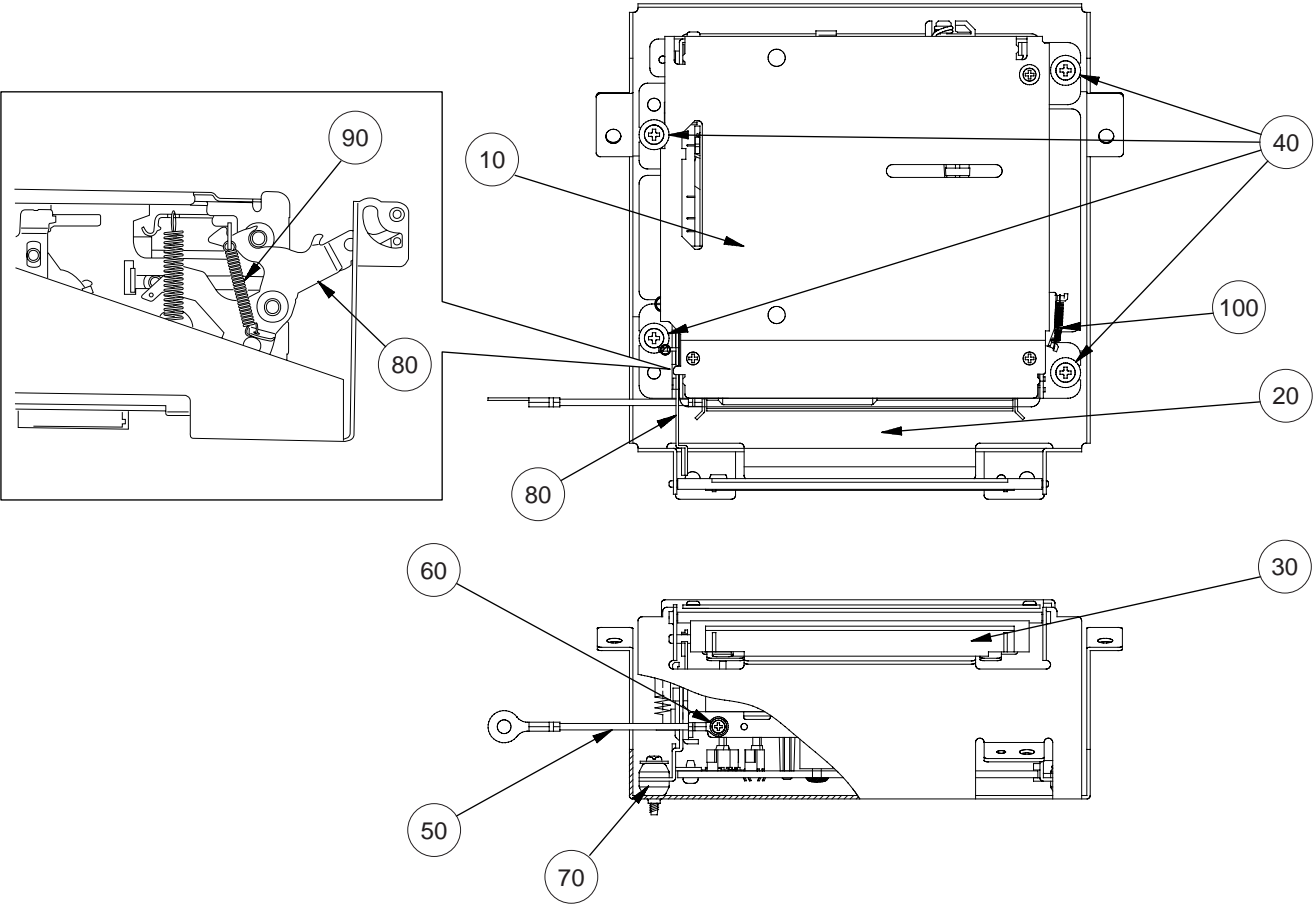
RANK:Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
△	VZ626700	AC Cord	7A 125V 1.8m	J		04
△ *	V2998900	AC Cord	UC 7A 2.0m SPT-2	U,C,V		
△	MG002150	AC Cord	2.5A 250V 1.8m G	H,W		05
△	VM683700	AC Cord	1A B	B		10
*	V3025900	MD Data Disk	SONY MMD-140A	V,W		

*:New Parts

RANK:Japan only

MD MECHANICAL UNIT



REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
* 10	V2715700	Mechanical Unit, MD		MD4S (V291360)		
* 20	V2715600	Holder Mechanism	DYMA2Z190A			
* 30	V2715800	Lid				
* 40	V2559900	Screw	2X12 MFZN2Y		4	
50	---	Connector Assembly	#22 L=30	(V320310)		
* 60	V3207200	Screw	2.0X4 MFZN2Y			
* 70	V3602800	Insulator				
* 80	V3602900	Lid Opener				
* 90	V3602700	Lid Open Spring				
* 100	V3602600	Catch Arm Spring				

*:New Parts

RANK:Japan only

ELECTRICAL PARTS

REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
* * * * * * * *		ELECTRICAL PARTS			MD4S		
	NX820350	Circuit Board	MIX 1/2		(XV347C0)		
	NX820360	Circuit Board	MIX 2/2 (INPUT)		(XV347C0)		
	NX820370	Circuit Board	SUB 1/3		(XV348C0)		
	NX820380	Circuit Board	SUB 2/3	J	(XV348C0)		
	NX820390	Circuit Board	SUB 2/3	U,C,V	(XV348C0)		
	NX820400	Circuit Board	SUB 2/3	H,B,W	(XV780B0)		
	NX820410	Circuit Board	SUB 3/3		(XV348C0)		
	V2799900	Circuit Board	MAIN		(XV349B0)		
* * * * * * * *	NX820350	Circuit Board	MIX 1/2		(XV347C0)		
	NX820360	Circuit Board	MIX 2/2 (INPUT)		(XV347C0)		
	10 V2715000	Knob D12	GY	GAIN,CUE L.V.1-4,MON L.V.		9	
	20 V2715100	Knob D12	GR	HIGH,MID,LOW		12	
	30 V2715200	Knob D12	BE	AUX1-4,5/6,7/8		6	
	40 V2715300	Knob D12	RE	PAN,CUE		8	
	50 V2716400	Knob, Push	BL	MONITOR SELECT		7	
	60 V2716500	Knob, Push	RE	CUE MAX TO STEREO		1	
C101	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C102	UM417100	Electrolytic Cap.-KS	10.00 50.0V				01
C103	UM417100	Electrolytic Cap.-KS	10.00 50.0V				01
C104	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C105	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C106	UB052220	Monolithic Ceramic Cap. (chip)	SL 220P 50V J				01
C107	UR819100	Electrolytic Cap.	1000 6.3V				01
C108	UB052330	Monolithic Ceramic Cap. (chip)	SL 330P 50V J				01
C109	UB052220	Monolithic Ceramic Cap. (chip)	SL 220P 50V J				01
C110	UB052330	Monolithic Ceramic Cap. (chip)	SL 330P 50V J				01
C111	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J				01
C112	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J				01
C113	UR837220	Electrolytic Cap.	22.00 16.0V				01
C114	UB044100	Monolithic Ceramic Cap. (chip)	F 0.010 50V Z				01
C115	UR837100	Electrolytic Cap.	10.00 16.0V				01
C116	UB014330	Monolithic Ceramic Cap. (chip)	B 0.033 50V K				01
C117	UB012820	Monolithic Ceramic Cap. (chip)	B 820P 50V K				01
C118	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C119	UB013150	Monolithic Ceramic Cap. (chip)	B 1500P 50V K				01
C120	UB013180	Monolithic Ceramic Cap. (chip)	B 1800P 50V K				01
C121	UR837100	Electrolytic Cap.	10.00 16.0V				01
C122	UM397100	Electrolytic Cap.-KS	10.00 16.0V				01
C123	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C124	UM397470	Electrolytic Cap.-KS	47.00 16.0V				01
C125	UR837100	Electrolytic Cap.	10.00 16.0V				01
C126	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C127	UR837220	Electrolytic Cap.	22.00 16.0V				01
C201	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C202	UM417100	Electrolytic Cap.-KS	10.00 50.0V				01
C203	UM417100	Electrolytic Cap.-KS	10.00 50.0V				01
C204	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C205	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C206	UB052220	Monolithic Ceramic Cap. (chip)	SL 220P 50V J				01
C207	UR819100	Electrolytic Cap.	1000 6.3V				01
C208	UB052330	Monolithic Ceramic Cap. (chip)	SL 330P 50V J				01
C209	UB052220	Monolithic Ceramic Cap. (chip)	SL 220P 50V J				01
C210	UB052330	Monolithic Ceramic Cap. (chip)	SL 330P 50V J				01
C211	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J				01
C212	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J				01
C213	UR837220	Electrolytic Cap.	22.00 16.0V				01
C214	UB044100	Monolithic Ceramic Cap. (chip)	F 0.010 50V Z				01
C215	UR837100	Electrolytic Cap.	10.00 16.0V				01
C216	UB014330	Monolithic Ceramic Cap. (chip)	B 0.033 50V K				01
C217	UB012820	Monolithic Ceramic Cap. (chip)	B 820P 50V K				01
C218	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C219	UB013150	Monolithic Ceramic Cap. (chip)	B 1500P 50V K				01
C220	UB013180	Monolithic Ceramic Cap. (chip)	B 1800P 50V K				01
C221	UR837100	Electrolytic Cap.	10.00 16.0V				01
C222	UM397100	Electrolytic Cap.-KS	10.00 16.0V				01
C223	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C224	UM397470	Electrolytic Cap.-KS	47.00 16.0V				01
C225	UR837100	Electrolytic Cap.	10.00 16.0V				01

*:New Parts

RANK:Japan only

REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
C226	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C227	UR837220	Electrolytic Cap.	22.00 16.0V				01
C301	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C302	UR837100	Electrolytic Cap.	10.00 16.0V				01
C303	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J				01
C304	UR837470	Electrolytic Cap.	47.00 16.0V				01
C305	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C306	UR837100	Electrolytic Cap.	10.00 16.0V				01
C307	UM397470	Electrolytic Cap.-KS	47.00 16.0V				01
C315	UR837100	Electrolytic Cap.	10.00 16.0V				01
C316	UB014330	Monolithic Ceramic Cap. (chip)	B 0.033 50V K				01
C317	UB012820	Monolithic Ceramic Cap. (chip)	B 820P 50V K				01
C318	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C319	UB013150	Monolithic Ceramic Cap. (chip)	B 1500P 50V K				01
C320	UB013180	Monolithic Ceramic Cap. (chip)	B 1800P 50V K				01
C321	UR837100	Electrolytic Cap.	10.00 16.0V				01
C322	UM397100	Electrolytic Cap.-KS	10.00 16.0V				01
C323	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C324	UM397470	Electrolytic Cap.-KS	47.00 16.0V				01
C325	UM397100	Electrolytic Cap.-KS	10.00 16.0V				01
C326	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C327	UR837220	Electrolytic Cap.	22.00 16.0V				01
C401	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K				01
C402	UR837100	Electrolytic Cap.	10.00 16.0V				01
C403	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J				01
C404	UR837470	Electrolytic Cap.	47.00 16.0V				01
C405	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C406	UR837100	Electrolytic Cap.	10.00 16.0V				01
C407	UM397470	Electrolytic Cap.-KS	47.00 16.0V				01
C415	UR837100	Electrolytic Cap.	10.00 16.0V				01
C416	UB014330	Monolithic Ceramic Cap. (chip)	B 0.033 50V K				01
C417	UB012820	Monolithic Ceramic Cap. (chip)	B 820P 50V K				01
C418	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C419	UB013150	Monolithic Ceramic Cap. (chip)	B 1500P 50V K				01
C420	UB013180	Monolithic Ceramic Cap. (chip)	B 1800P 50V K				01
C421	UR837100	Electrolytic Cap.	10.00 16.0V				01
C422	UM397100	Electrolytic Cap.-KS	10.00 16.0V				01
C423	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C424	UM397470	Electrolytic Cap.-KS	47.00 16.0V				01
C425	UM397100	Electrolytic Cap.-KS	10.00 16.0V				01
C426	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C427	UR837220	Electrolytic Cap.	22.00 16.0V				01
C501	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J				01
C502	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C503	UR837100	Electrolytic Cap.	10.00 16.0V				01
C504	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J				01
C505	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C506	UR837100	Electrolytic Cap.	10.00 16.0V				01
C507	UM397220	Electrolytic Cap.-KS	22.00 16.0V				01
C508	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C509	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C510	UM397220	Electrolytic Cap.-KS	22.00 16.0V				01
C511	UM416330	Electrolytic Cap.-KS	3.30 50.0V				01
C512	UM397220	Electrolytic Cap.-KS	22.00 16.0V				01
C513	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C514	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C515	UM397220	Electrolytic Cap.-KS	22.00 16.0V				01
C516	UM416330	Electrolytic Cap.-KS	3.30 50.0V				01
C517	UR837220	Electrolytic Cap.	22.00 16.0V				01
C518	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J				01
C519	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C520	UR837220	Electrolytic Cap.	22.00 16.0V				01
C521	UR837220	Electrolytic Cap.	22.00 16.0V				01
C522	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J				01
C523	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C524	UR837220	Electrolytic Cap.	22.00 16.0V				01
C525	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J				01
C526	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D				01
C527	VV020100	Electrolytic Cap.	220.00 10.0V				01
C528	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J				01

*:New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C529	UB051220	Monolithic Ceramic Cap. (chip)	SL 22P 50V J			01
C530	UB051100	Monolithic Ceramic Cap. (chip)	SL 10P 50V D			01
C531	VV020100	Electrolytic Cap.	220.00 10.0V			01
C532	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J			01
C533	UB014100	Monolithic Ceramic Cap. (chip)	B 0.01 50V K			01
C534	UB014100	Monolithic Ceramic Cap. (chip)	B 0.01 50V K			01
C535	UR828100	Electrolytic Cap.	100.00 10.0V			01
C536	UR828100	Electrolytic Cap.	100.00 10.0V			01
C537	UR837100	Electrolytic Cap.	10.00 16.0V			01
-539	UR837100	Electrolytic Cap.	10.00 16.0V			01
C540	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J			01
C541	UR837100	Electrolytic Cap.	10.00 16.0V			01
C542	UR837100	Electrolytic Cap.	10.00 16.0V			01
C543	UB051330	Monolithic Ceramic Cap. (chip)	SL 33P 50V J			01
C544	UR837100	Electrolytic Cap.	10.00 16.0V			01
C601	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J			01
-604	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J			01
* CN101	VQ615400	Connector Assembly	6P 100mm B&C 2mm			
CN102	VQ612500	Connector Assembly	4P 200mm B&C 2mm			02
* CN103	VQ612000	Connector Assembly	4P 100mm B&C 2mm			
* CN104	VQ613700	Connector Assembly	5P 100mm B&C 2mm			
CN105	VZ612300	Connector , FFC	52089-0820 8P SE			01
CN106	VY917700	Connector Assembly	9P 100mm B&C 2mm			03
* CN107	VQ610600	Connector Assembly	3P 160mm B&C 2mm			01
* CN108	V2631300	Connector , FFC	52089-1120 11P SE			
* CN109	VQ612300	Connector Assembly	4P 160mm B&C 2mm			
CN601	VB390200	Connector Base Post	PH- 6P TE			01
CN602	VB390000	Connector Base Post	PH- 4P TE			01
CN603	VB390000	Connector Base Post	PH- 4P TE			01
CN604	VB390100	Connector Base Post	PH- 5P TE			01
D101	VT332900	Diode	1SS355 TE-17			01
D102	VT332900	Diode	1SS355 TE-17			01
IC101	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC102	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC103	IG103520	IC	NJM4558MT-1	OP AMP		03
-112	IG103520	IC	NJM4558MT-1	OP AMP		03
IC113	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC114	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC115	IG103520	IC	NJM4558MT-1	OP AMP		03
IC116	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
-118	XJ553A00	IC	NJM2068MD-T1	OP AMP		02
IC119	XQ138A00	IC	NJM4556AMT1	OP AMP		03
IC120	IG103520	IC	NJM4558MT-1	OP AMP		03
* JK601	V2910100	XLM Connector		MIC/LINE INPUT 1		
* JK602	V3348000	Phone Jack	YKB21-5278 (BL)	INSERT I/O 1		03
* JK603	V2910100	XLM Connector		MIC/LINE INPUT 2		
* JK604	V3348000	Phone Jack	YKB21-5278 (BL)	INSERT I/O 2		03
JK605	VB312600	Phone Jack	YKB21-5012 (BL)	MIC/LINE INPUT 3		02
JK606	VY695400	Phone Jack	YKB21-5244 (BL)	MIC/LINE INPUT 4		02
JK607	VB312600	Phone Jack	YKB21-5012 (BL)	LINE INPUT 5		02
JK608	VY695400	Phone Jack	YKB21-5244 (BL)	LINE INPUT 6		02
JK609	VB312600	Phone Jack	YKB21-5012 (BL)	LINE INPUT 7		02
JK610	VY695400	Phone Jack	YKB21-5244 (BL)	LINE INPUT 8		02
L101	VB835000	Coil	FL5R200QNT 20u			01
L601	VB835000	Coil	FL5R200QNT 20u			01
-608	VB835000	Coil	FL5R200QNT 20u			01
L609	GE300610	Ferrite Bead	BL02RN1-R62T4			01
L610	GE300610	Ferrite Bead	BL02RN1-R62T4			01
L611	VB835000	Coil	FL5R200QNT 20u			01
-614	VB835000	Coil	FL5R200QNT 20u			01
Q101	V0067000	Transistor	2SA1316 GR,BL			
-104	V0067000	Transistor	2SA1316 GR,BL			
Q105	VK432900	Transistor	2SD1915(F) S,T			01
-110	VK432900	Transistor	2SD1915(F) S,T			01
R101	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R102	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R103	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R104	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R105	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R106	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01

*:New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R107	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R108	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R109	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R110	RD254270	Carbon Resistor (chip)	27.0 0.1 J			
R111	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R112	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R113	RD256430	Carbon Resistor (chip)	4.3K 0.1 J			01
R114	RD256430	Carbon Resistor (chip)	4.3K 0.1 J			01
R115	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R116	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R117	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R118	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R119	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R120	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R121	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R122	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R123	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R124	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R125	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R126	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R127	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R128	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R129	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R130	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R131	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R132	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R133	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R134	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R135	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R136	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
-138	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R139	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R140	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R141	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R142	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R143	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
R201	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
-203	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R204	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R205	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R206	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R207	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R208	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R209	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R210	RD254270	Carbon Resistor (chip)	27.0 0.1 J			
R211	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R212	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R213	RD256430	Carbon Resistor (chip)	4.3K 0.1 J			01
R214	RD256430	Carbon Resistor (chip)	4.3K 0.1 J			01
R215	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R216	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R217	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R218	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R219	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R220	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R221	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R222	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R223	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R224	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R225	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R226	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R227	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R228	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R229	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R230	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R231	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R232	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R233	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R234	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R235	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01

*:New Parts

RANK:Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R236	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
-238	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R239	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R240	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R241	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R242	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R243	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
R301	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R302	RD255180	Carbon Resistor (chip)	180.0 0.1 J			01
R303	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R304	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R305	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R317	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R318	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R319	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R320	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R321	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R322	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R323	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R324	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R325	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R326	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R327	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R328	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R329	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R330	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R331	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R332	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R333	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R334	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R335	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R336	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
-338	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R339	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R340	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R341	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R342	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R401	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R402	RD255180	Carbon Resistor (chip)	180.0 0.1 J			01
R403	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R404	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R405	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R417	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R418	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R419	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R420	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R421	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R422	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R423	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R424	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R425	RD258270	Carbon Resistor (chip)	270.0K 0.1 J			01
R426	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R427	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R428	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R429	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R430	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R431	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R432	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R433	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R434	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R435	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R436	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
-438	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R439	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R440	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R441	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R442	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R501	RD257180	Carbon Resistor (chip)	18.0K 0.1 J			01
-504	RD257180	Carbon Resistor (chip)	18.0K 0.1 J			01
R505	RD257300	Carbon Resistor (chip)	30.0K 0.1 J			01

*:New Parts

RANK:Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R506	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R507	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R509	RD257300	Carbon Resistor (chip)	30.0K 0.1 J			01
R510	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R511	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R513	RD257560	Carbon Resistor (chip)	56.0K 0.1 J			01
R514	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R515	RD257680	Carbon Resistor (chip)	68.0K 0.1 J			01
R516	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R517	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R518	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R519	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R520	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
R521	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R522	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R523	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R524	RD257680	Carbon Resistor (chip)	68.0K 0.1 J			01
R525	RD257560	Carbon Resistor (chip)	56.0K 0.1 J			01
R526	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R527	RD257680	Carbon Resistor (chip)	68.0K 0.1 J			01
R528	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R529	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R530	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R531	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R532	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
R533	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R534	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R535	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R536	RD257680	Carbon Resistor (chip)	68.0K 0.1 J			01
R537	RD257820	Carbon Resistor (chip)	82.0K 0.1 J			01
R538	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R539	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R540	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R541	RD257820	Carbon Resistor (chip)	82.0K 0.1 J			01
R542	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R543	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R544	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R545	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R546	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R547	RD257120	Carbon Resistor (chip)	12.0K 0.1 J			01
-552	RD257120	Carbon Resistor (chip)	12.0K 0.1 J			01
R553	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R554	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R555	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R556	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R557	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R558	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R559	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R560	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R561	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R562	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R563	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R564	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R565	RD255120	Carbon Resistor (chip)	120.0 0.1 J			01
-570	RD255120	Carbon Resistor (chip)	120.0 0.1 J			01
R571	RD256750	Carbon Resistor (chip)	7.5K 0.1 J			01
R572	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R573	RD256750	Carbon Resistor (chip)	7.5K 0.1 J			01
R574	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R575	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R576	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R577	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R578	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R579	RD257220	Carbon Resistor (chip)	22.0K 0.1 J			01
R580	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R581	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R582	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R601	RD257120	Carbon Resistor (chip)	12.0K 0.1 J			01
R602	RD257120	Carbon Resistor (chip)	12.0K 0.1 J			01
R603	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01

*:New Parts

RANK:Japan only

REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
R604	RD255220	Carbon Resistor (chip)	220.0 0.1 J				01
SP1	VB966900	Style Pin	IMSA-6024 L=35				01
SW101	VZ587700	Push Switch	SPPH43001A		MIC/LINE PB 1		01
SW102	VZ587700	Push Switch	SPPH43001A		MIC/LINE PB 2		01
SW103	VZ587700	Push Switch	SPPH43001A		MIC/LINE PB 3		01
SW104	VZ587700	Push Switch	SPPH43001A		MIC/LINE PB 4		01
SW105	VZ587700	Push Switch	SPPH43001A		CUE MIX TO STEREO		01
SW106	VZ587700	Push Switch	SPPH43001A		MONITOR SELECT ZTR IN		01
SW107	VZ587700	Push Switch	SPPH43001A		MONITOR SELECT STEREO		01
SW108	VZ587700	Push Switch	SPPH43001A		MONITOR SELECT CUE		01
* VR101	V2909600	Rotary Variable Resistor	RD 20.0K		GAIN CH1		
* VR102	V2909700	Rotary Variable Resistor	B5 0.0K		LOW-EQ CH1		
* VR103	V2909700	Rotary Variable Resistor	B5 0.0K		HIGH CH1		
* VR104	V2909700	Rotary Variable Resistor	B 50.0K		MID-FREQ CH1		
VR105	VL081200	Slide Variable Resistor	A 10.0K RS45111A		FADER CH1		03
* VR106	V2910000	Rotary Variable Resistor	X 20.0K		AUX1/2 CH1		
* VR107	V2909800	Rotary Variable Resistor	B 10.0K		PAN L/R CH1		
* VR108	V2909900	Rotary Variable Resistor	A 10.0K		CUE LEVEL 0/10 CH1		
* VR109	V2909800	Rotary Variable Resistor	B 10.0K		CUE PAN L/R CH1		
* VR201	V2909600	Rotary Variable Resistor	RD 20.0K		GAIN CH2		
* VR202	V2909700	Rotary Variable Resistor	B 50.0K		LOW-EQ CH2		
* VR203	V2909700	Rotary Variable Resistor	B 50.0K		HIGH CH2		
* VR204	V2909700	Rotary Variable Resistor	B 50.0K		MID-FREQ CH2		
VR205	VL081200	Slide Variable Resistor	A 10.0K RS45111A		FADER CH2		03
* VR206	V2910000	Rotary Variable Resistor	X 20.0K		AUX1/2 CH2		
* VR207	V2909800	Rotary Variable Resistor	B 10.0K		PAN L/R CH2		
* VR208	V2909900	Rotary Variable Resistor	A 10.0K		CUE LEVEL 0/10 CH2		
* VR209	V2909800	Rotary Variable Resistor	B 10.0K		CUE PAN L/R CH2		
* VR301	V2909600	Rotary Variable Resistor	RD 20.0K		GAIN CH3		
* VR302	V2909700	Rotary Variable Resistor	B 50.0K		LOW-EQ CH3		
* VR303	V2909700	Rotary Variable Resistor	B 50.0K		HIGH CH3		
* VR304	V2909700	Rotary Variable Resistor	B 50.0K		MID-FREQ CH3		
VR305	VL081200	Slide Variable Resistor	A 10.0K RS45111A		FADER CH3		03
* VR306	V2910000	Rotary Variable Resistor	X 20.0K		AUX1/2 CH3		
* VR307	V2909800	Rotary Variable Resistor	B 10.0K		PAN L/R CH3		
* VR308	V2909900	Rotary Variable Resistor	A 10.0K		CUE LEVEL 0/10 CH3		
* VR309	V2909800	Rotary Variable Resistor	B 10.0K		CUE PAN L/R CH2		
* VR401	V2909600	Rotary Variable Resistor	RD 20.0K		GAIN 4		
* VR402	V2909700	Rotary Variable Resistor	B 50.0K		LOW-EQ CH4		
* VR403	V2909700	Rotary Variable Resistor	B 50.0K		HIGH CH4		
* VR404	V2909700	Rotary Variable Resistor	B 50.0K		MID-FREQ CH4		
VR405	VL081200	Slide Variable Resistor	A 10.0K RS45111A		FADER CH4		03
* VR406	V2910000	Rotary Variable Resistor	X 20.0K		AUX1/2 CH4		
* VR407	V2909800	Rotary Variable Resistor	B 10.0K		PAN L/R CH4		
* VR408	V2909900	Rotary Variable Resistor	A 10.0K		CUE LEVEL 0/10 CH4		
* VR409	V2909800	Rotary Variable Resistor	B 10.0K		CUE PAN L/R CH4		
* VR501	V2345700	Rotary Variable Resistor	A 20.0KX2 RK12L12C0		INPUT LEVEL L		
* VR502	V2345700	Rotary Variable Resistor	A 20.0KX2 RK12L12C0		INPUT LEVEL R		
VR503	VL081300	Slide Variable Resistor	A 10.0KX2 RS45112AA		STEREO MASTER		03
* VR504	V2345600	Rotary Variable Resistor	A 10.0KX2 RK12L12C0		MONITOR LEVEL		
*	NX820370	Circuit Board	SUB 1/3		(XV348C0)		
*	NX820380	Circuit Board	SUB 2/3		J (XV348C0)		
*	NX820390	Circuit Board	SUB 2/3		U,C,V (XV348C0)		
*	NX820400	Circuit Board	SUB 2/3		H,B,W (XV780B0)		
*	NX820410	Circuit Board	SUB 3/3		(XV348C0)		
* 10	V2715400	Support, FL					
* 20	V2715500	Radiator					
* 30	—	Tape	#451-60 50X50		(0483949)		
* 40	V3026400	Radiator, Sub					
50	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL				01
C701	FG644100	Ceramic Capacitor-F	0.0100 50V Z				01
C702	FG644100	Ceramic Capacitor-F	0.0100 50V Z				01
C703	UR846470	Electrolytic Cap.	4.700 10.0V				01
C704	UR828220	Electrolytic Cap.	220.00 10.0V				01
C705	UR837470	Electrolytic Cap.	47.00 16.0V				01
C706	VU629900	Electrolytic Cap.	3300 16.0V				02
C707	VU629900	Electrolytic Cap.	3300 16.0V				02
C708	UR828100	Electrolytic Cap.	100.00 10.0V				01
-710	UR828100	Electrolytic Cap.	100.00 10.0V				01

*:New Parts

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	REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	C715	UR868220	Electrolytic Cap.	220.00 50.0V			01
	C716	FG644100	Ceramic Capacitor-F	0.0100 50V Z			01
	-719	FG644100	Ceramic Capacitor-F	0.0100 50V Z			01
*	C720	VZ302300	Electrolytic Cap.	15000/16V			
	C721	VT439600	Monolithic Ceramic Cap.	0.100 50V Z			01
	C722	UR828100	Electrolytic Cap.	100.00 10.0V			01
	-725	UR828100	Electrolytic Cap.	100.00 10.0V			01
△ *	C728	V3311600	Capacitor	0.010 250V J.U.C.S			01
△	C729	FR203100	Capacitor	0.1U JUCS			03
△	C730	FR203100	Capacitor	0.1U JUCS			03
	C731	VT439600	Monolithic Ceramic Cap.	0.100 50V Z			01
	C732	VT439600	Monolithic Ceramic Cap.	0.100 50V Z			01
	C733	FG612220	Ceramic Cap.-B	220P 50V K			01
	C734	FG612220	Ceramic Cap.-B	220P 50V K			01
	C735	VT439600	Monolithic Ceramic Cap.	0.100 50V Z			01
	C736	UR867100	Electrolytic Cap.	10.00 50.0V			01
	C801	FG651470	Ceramic Cap.-SL	47P 50V J			01
	-803	FG651470	Ceramic Cap.-SL	47P 50V J			01
	C804	FG652100	Ceramic Cap.-SL	100P 50V J			01
	C805	FG644100	Ceramic Cap.-F	0.010 50V Z			01
	C807	FG652100	Ceramic Cap.-SL	100P 50V J			01
	C808	VT439600	Monolithic Ceramic Cap.	0.100 50V Z			01
	-901	VT439600	Monolithic Ceramic Cap.	0.100 50V Z			01
	CN701	LB932040	Base Post Connector	VH- 4P TE			01
	CN702	LB932050	Base Post Connector	VH- 5P TE			01
	CN703	VG879900	Base Post Connector	VA- 2P TE			01
	CN704	VB390000	Connector Base Post	PH- 4P TE			01
	CN705	VZ612600	Connector , FFC	52089-1420 14P SE			02
	CN706	VB390100	Connector Base Post	PH- 5P TE			01
	CN707	V3148400	Connector Assembly	SAN&PH 8P 80L	J		
*	CN707	V2910200	Connector Assembly	SAN&PH 8P 250L	U,C,V,H,B,W		
	CN708	VB390500	Connector Base Post	PH- 9P TE			03
*	CN801	V2346600	Connector , FFC	52089 25P SE			
*	CN802	VQ613700	Connector Assembly	5P 100mm B&C 2mm			
	CN803	VZ603100	Connector Assembly	DA-KR#26 3P 70L			01
	CN901	VB389900	Connector Base Post	PH- 3P TE			01
	CN902	VB389900	Connector Base Post	PH- 3P TE			01
	D701	VB941200	Diode	1SS133,1SS176			01
	-705	VB941200	Diode	1SS133,1SS176			01
△	D706	VG282700	Diode	1S1885 LC-5			01
△	-709	VG282700	Diode	1S1885 LC-5			01
	D710	VB941200	Diode	1SS133,1SS176			01
	D711	VB941200	Diode	1SS133,1SS176			01
	D712	VU652800	Diode	1SR139-400 T-31			01
*	D713	V2909500	Zener Diode	MA2056-A 5.6V			
△	D714	VT359600	Diode Stack	D3SBA20 4.0A 200V			03
	D715	VU652800	Diode	1SR139-400 T-31			01
	D716	VU652800	Diode	1SR139-400 T-31			01
	D801	VU125200	LED	SLR-332VRTB7 RE	PITCH		01
	D802	VU125200	LED	SLR-332VRTB7 RE	ADJUST		01
	D803	VU125200	LED	SLR-332VRTB7 RE	EDIT		01
	D804	VU125200	LED	SLR-332VRTB7 RE	UTILITY		01
	D805	VU125400	LED	SLR-332YYTB7 YE	REHE		01
	D806	VU125200	LED	SLR-332VRTB7 RE	REC		01
	D807	VU125300	LED	SLR-332MGTB7 GR	PLAY		01
△	F701	KB003600	Fuse	T 3.15A	J,U,C,V		01
△	F701	KB003080	Fuse	2.50A S	H,B,W		01
△	F702	KB003570	Fuse	T 2.00A	J,U,C,V		01
	FH1	VP206500	Fuse Holder	EYF-52BC			01
	FH2	VP206500	Fuse Holder	EYF-52BC			01
	FH3	VP206500	Fuse Holder	EYF-52BC	J,U,C,V		01
	FH4	VP206500	Fuse Holder	EYF-52BC	J,U,C,V		01
△	IC701	XD801A00	IC	NJM7808FA	REGULATOR +8V		02
△	IC702	XD802A00	IC	NJM7908FA	REGULATOR -8V		02
△	IC703	XJ604A00	IC	NJM78M05FA	REGULATOR +5V		02
△ *	IC704	XU886A00	IC	UPC2406AHF	REGULATOR +6V		
△	IC705	XH672A00	IC	PQ05RF2	REGULATOR +5V 2A		04
	IC801	XN173A00	IC	M66004SP	MPX		07
△	JK701	VK704800	AC-IN Connector	M1779-C	J,H,B,W AC IN		02
△	JK701	VJ137700	AC-IN Connector	M1770-B	U,C,V AC IN		02

*:New Parts

RANK:Japan only

REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
JK702	VZ662100	DIN Connector	3P	MIDI IN/OUT/THRU		
* JK703	V2346200	Pin Jack	T6552 BL 4P	DIRECT OUT 1 2 3 4		
JK704	VY695400	Phone Jack	YKB21-5244 (BL)	AUX SEND 1		02
JK705	VY695400	Phone Jack	YKB21-5244 (BL)	AUX SEND 2		02
* JK706	V2346400	Pin Jack	RE/WH T6599	MONITOR OUT STEREO OUT		
				2TR IN		
JK901	VY695400	Phone Jack	YKB21-5244 (BL)	PUNCH I/O		02
JK902	VZ626100	Phone Jack	YKB21-5264 (BL)	PHONES		02
L704	FZ006970	LC Filter	LS MT Y223NB			02
L705	FZ006970	LC Filter	LS MT Y223NB			02
△ L707	VZ677000	Line Filter	PLH11A1811R2P01B1			03
L708	VB835000	Coil	FL5R200QNT 20u			01
-725	VB835000	Coil	FL5R200QNT 20u			01
L801	VB835000	Coil	FL5R200QNT 20u			01
-803	VB835000	Coil	FL5R200QNT 20u			01
L901	VB835000	Coil	FL5R200QNT 20u			01
L902	VB835000	Coil	FL5R200QNT 20u			01
L903	VB835000	Coil	FL5R200QNT 20u			01
Q701	IC174070	Transistor	2SC1740S R,S			01
Q702	VD678500	Digital Transistor	DTA114ES			01
Q703	VK432900	Transistor	2SD1915(F) S,T			01
-710	VK432900	Transistor	2SD1915(F) S,T			01
Q801	VD678700	Digital Transistor	DTC114ES			01
-807	VD678700	Digital Transistor	DTC114ES			01
R701	HV754680	Flame Proof C. Resistor	68.0 1/4 J			01
R702	HF755820	Carbon Resistor	820.0 1/4 J			01
R703	HF757470	Carbon Resistor	47.0K 1/4 J			01
R704	HF756150	Carbon Resistor	1.5K 1/4 J			01
R705	HF756150	Carbon Resistor	1.5K 1/4 J			01
R706	HF758100	Carbon Resistor	100.0K 1/4 J			01
R707	HF757330	Carbon Resistor	33.0K 1/4 J			01
R708	HF756100	Carbon Resistor	1.0K 1/4 J			01
R709	HF757100	Carbon Resistor	10.0K 1/4 J			01
R710	HF756100	Carbon Resistor	1.0K 1/4 J			01
R711	HF757100	Carbon Resistor	10.0K 1/4 J			01
R712	HF756100	Carbon Resistor	1.0K 1/4 J			01
R713	HF757100	Carbon Resistor	10.0K 1/4 J			01
R714	HF756100	Carbon Resistor	1.0K 1/4 J			01
R715	HF757100	Carbon Resistor	10.0K 1/4 J			01
R716	HF756100	Carbon Resistor	1.0K 1/4 J			01
R717	HF757100	Carbon Resistor	10.0K 1/4 J			01
R718	HF756100	Carbon Resistor	1.0K 1/4 J			01
R719	HF757100	Carbon Resistor	10.0K 1/4 J			01
R720	HF757150	Carbon Resistor	15.0K 1/4 J			01
R721	HF757150	Carbon Resistor	15.0K 1/4 J			01
R722	HF756330	Carbon Resistor	3.3K 1/4 J			01
R723	HF757100	Carbon Resistor	10.0K 1/4 J			01
R724	HF756150	Carbon Resistor	1.5K 1/4 J			01
R725	HF756330	Carbon Resistor	3.3K 1/4 J			01
R726	HF757100	Carbon Resistor	10.0K 1/4 J			01
R727	HF756150	Carbon Resistor	1.5K 1/4 J			01
R801	HF757100	Carbon Resistor	10.0K 1/4 J			01
R802	HF755470	Carbon Resistor	470.0 1/4 J			01
-804	HF755470	Carbon Resistor	470.0 1/4 J			01
R805	HF756100	Carbon Resistor	1.0K 1/4 J			01
-809	HF756100	Carbon Resistor	1.0K 1/4 J			01
R810	HF757100	Carbon Resistor	10.0K 1/4 J			01
R811	HF756180	Carbon Resistor	1.8K 1/4 J			01
R812	HF756240	Carbon Resistor	2.4K 1/4 J			01
R813	HF756390	Carbon Resistor	3.9K 1/4 J			01
R814	HF756560	Carbon Resistor	5.6K 1/4 J			01
R815	HF757130	Carbon Resistor	13.0K 1/4 J			01
R816	HF757100	Carbon Resistor	10.0K 1/4 J			01
R817	HF756180	Carbon Resistor	1.8K 1/4 J			01
R818	HF756240	Carbon Resistor	2.4K 1/4 J			01
R819	HF756390	Carbon Resistor	3.9K 1/4 J			01
R820	HF756560	Carbon Resistor	5.6K 1/4 J			01
R821	HF757130	Carbon Resistor	13.0K 1/4 J			01
R822	HF757100	Carbon Resistor	10.0K 1/4 J			01
R823	HF756180	Carbon Resistor	1.8K 1/4 J			01

*:New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R824	HF756240	Carbon Resistor	2.4K 1/4 J			01
R825	HF756390	Carbon Resistor	3.9K 1/4 J			01
R826	HF756560	Carbon Resistor	5.6K 1/4 J			01
R827	HF757130	Carbon Resistor	13.0K 1/4 J			01
R828	HF757100	Carbon Resistor	10.0K 1/4 J			01
R829	HF756180	Carbon Resistor	1.8K 1/4 J			01
R830	HF756240	Carbon Resistor	2.4K 1/4 J			01
R831	HF756390	Carbon Resistor	3.9K 1/4 J			01
R832	HF756560	Carbon Resistor	5.6K 1/4 J			01
R833	HF757130	Carbon Resistor	13.0K 1/4 J			01
R834	HF757100	Carbon Resistor	10.0K 1/4 J			01
R835	HF756180	Carbon Resistor	1.8K 1/4 J			01
R836	HF756240	Carbon Resistor	2.4K 1/4 J			01
R837	HF756390	Carbon Resistor	3.9K 1/4 J			01
R838	HF756560	Carbon Resistor	5.6K 1/4 J			01
R839	HF755470	Carbon Resistor	470.0 1/4 J			01
-842	HF755470	Carbon Resistor	470.0 1/4 J			01
R843	HF755390	Carbon Resistor	390.0 1/4 J			01
R844	HF755470	Carbon Resistor	470.0 1/4 J			01
R845	HF755270	Carbon Resistor	270.0 1/4 J			01
R846	HF457270	Carbon Resistor	27.0K 1/4 J			01
R847	HF757130	Carbon Resistor	13.0K 1/4 J			01
SP1	VB966900	Style Pin	IMSA-6024 L=35			01
SP2	VB966900	Style Pin	IMSA-6024 L=35			01
SW701	VQ040100	Push Switch	ESB82 TV-3	POWER SWITCH		03
SW801	VV020300	Tact Switch	SKQNAA	REHE		01
SW802	VV020300	Tact Switch	SKQNAA	(A/B)		01
SW803	VV020300	Tact Switch	SKQNAA	<		01
SW804	VV020300	Tact Switch	SKQNAA	PITCH		01
SW805	VV020300	Tact Switch	SKQNAA	DISPLAY		01
SW806	VV020300	Tact Switch	SKQNAA	1		01
SW807	VV020300	Tact Switch	SKQNAA	REC		01
SW808	VV020300	Tact Switch	SKQNAA	REPLAY		01
SW809	VV020300	Tact Switch	SKQNAA	>		01
SW810	VV020300	Tact Switch	SKQNAA	ADJUST		01
SW811	VV020300	Tact Switch	SKQNAA	EJECT		01
SW812	VV020300	Tact Switch	SKQNAA	2		01
SW813	VV020300	Tact Switch	SKQNAA	PLAY		01
SW814	VV020300	Tact Switch	SKQNAA	IN		01
SW815	VV020300	Tact Switch	SKQNAA	<<(PRE)		01
SW816	VV020300	Tact Switch	SKQNAA	EDIT		01
SW817	VV020300	Tact Switch	SKQNAA	EXIT		01
SW818	VV020300	Tact Switch	SKQNAA	3		01
SW819	VV020300	Tact Switch	SKQNAA	STOP		01
SW820	VV020300	Tact Switch	SKQNAA	OUT		01
SW821	VV020300	Tact Switch	SKQNAA	>> ,(NEXT)		01
SW822	VV020300	Tact Switch	SKQNAA	UTILITY		01
SW823	VV020300	Tact Switch	SKQNAA	ENTER		01
SW824	VV020300	Tact Switch	SKQNAA	4		01
SW825	VV020300	Tact Switch	SKQNAA	PAUSE		01
SW826	VV020300	Tact Switch	SKQNAA	SET		01
SW827	VV020300	Tact Switch	SKQNAA	P. I/O		01
SW828	VV020300	Tact Switch	SKQNAA	MARK		01
SW829	VV020300	Tact Switch	SKQNAA	BUS		01
* SW830	V2346500	Jog Shuttle	RJS-Y0003	JOG/SHUTTLE		01
SW831	VV020300	Tact Switch	SKQNAA	P. HOLD		01
* U801	V2633900	Display Tube	CM1736M			
*	V2799900	Circuit Board	MAIN	(XV349B0)		
	VZ197100	IC Socket	IC160-0444-200			05
C101	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C102	UG018100	Electrolytic Cap. (chip)	100 6.3V			01
C103	UG037100	Electrolytic Cap. (chip)	10 16V			01
C104	UG018100	Electrolytic Cap. (chip)	100 6.3V			01
C105	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J			01
C106	VJ899000	Monolithic Ceramic Cap. (chip)	CH 5P 50V C			01
C107	VJ899000	Monolithic Ceramic Cap. (chip)	CH 5P 50V C			01
C108	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
-110	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C111	VJ898700	Monolithic Ceramic Cap. (chip)	CK 2P 50V C			01

*:New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C112	VJ898700	Monolithic Ceramic Cap. (chip)	CK 2P 50V C			01
C113	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C114	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C115	UB215100	Monolithic Ceramic Cap. (chip)	B 0.1 25V K			01
C116	UB014220	Monolithic Ceramic Cap. (chip)	B 0.022 50V K			01
C117	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C118	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C119	UB051560	Monolithic Ceramic Cap. (chip)	SL 56P 50V J			01
C120	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C121	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C122	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C123	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C124	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C125	UB052100	Monolithic Ceramic Cap. (chip)	SL 100P 50V J			01
C126	UB014100	Monolithic Ceramic Cap. (chip)	B 0.01 50V K			01
C127	UB014100	Monolithic Ceramic Cap. (chip)	B 0.01 50V K			01
C128	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C129	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C130	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C131	UB012220	Monolithic Ceramic Cap. (chip)	B 220P 50V K			01
C132	UB012220	Monolithic Ceramic Cap. (chip)	B 220P 50V K			01
C133	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C134	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C135	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C136	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C137	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C138	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
-140	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C142	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C143	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C144	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C201	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C202	UG018100	Electrolytic Cap. (chip)	100 6.3V			01
C203	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C204	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C205	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C206	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C207	UB446100	Monolithic Ceramic Cap. (chip)	F 1.0 16V Z			01
C208	UB051470	Monolithic Ceramic Cap. (chip)	47p SL			01
C301	UG037100	Electrolytic Cap. (chip)	10 16V			01
-304	UG037100	Electrolytic Cap. (chip)	10 16V			01
C305	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C306	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C307	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C308	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C309	UG037100	Electrolytic Cap. (chip)	10 16V			01
C310	UG037100	Electrolytic Cap. (chip)	10 16V			01
C311	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C312	UB013100	Monolithic Ceramic Cap. (chip)	B 1000P 50V K			01
C313	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
-316	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C317	UG037100	Electrolytic Cap. (chip)	10 16V			01
-320	UG037100	Electrolytic Cap. (chip)	10 16V			01
C321	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
-325	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C326	UG037100	Electrolytic Cap. (chip)	10 16V			01
C327	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C328	UF037100	Electrolytic Cap. (chip)	10 16V			01
C329	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C330	UG037100	Electrolytic Cap. (chip)	10 16V			01
C331	UG037100	Electrolytic Cap. (chip)	10 16V			01
C332	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C334	UB013220	Monolithic Ceramic Cap. (chip)	B 2200P 50V K			01
C335	UB013220	Monolithic Ceramic Cap. (chip)	B 2200P 50V K			01
C336	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C337	UB013220	Monolithic Ceramic Cap. (chip)	B 2200P 50V K			01
C338	UB013220	Monolithic Ceramic Cap. (chip)	B 2200P 50V K			01
C339	UG037100	Electrolytic Cap. (chip)	10 16V			01
C340	UG037100	Electrolytic Cap. (chip)	10 16V			01
C341	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01

*:New Parts

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REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
C342	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C343	UG037100	Electrolytic Cap. (chip)	10 16V			01
C344	UG037100	Electrolytic Cap. (chip)	10 16V			01
C345	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C346	UG037100	Electrolytic Cap. (chip)	10 16V			01
-349	UG037100	Electrolytic Cap. (chip)	10 16V			01
C350	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
-360	UB445100	Monolithic Ceramic Cap. (chip)	0.100 16V Z			01
C361	UG037470	Electrolytic Cap. (chip)	47 16V			01
-364	UG037470	Electrolytic Cap. (chip)	47 16V			01
C365	UG037100	Electrolytic Cap. (chip)	10 16V			01
-369	UG037100	Electrolytic Cap. (chip)	10 16V			01
CN101	VT388900	Base Post	PH- 8P TE			01
* CN102	V2491700	Connector , FFC	HFR 18P SE			
* CN103	V2298600	Base Post	ZR 12P TE			
* CN104	V2491800	Connector , FFC	HFR 30P SE			
* CN105	V2299100	Connector , FFC	52207 25P SE			
CN106	VY661700	Connector	52207-1490 14P P=1.0			02
CN108	VZ249200	Connector	52207-0890 8P P=1.0			02
CN109	VY661700	Connector	52207-1490 14P P=1.0			02
* CN110	V2426700	Connector	52207-1190 11P P=1.0			
D101	VT332900	Diode	1SS355 TE-17			01
DA101	VU384000	Diode	HVM17			02
EM101	VU369300	EMI Filter (chip)	NFM51R00P106			02
* IC101	XU849A00	IC	MD4MC2	GATE ARRAY		
* IC102	XV145A00	IC	KM416C1200	ROM 16M		
IC102	XV083A00	IC		ROM 16M		
IC103	XT090A00	IC	SRM2B256SLMX70	SRAM 256K		
IC103	XV411A00	IC		SRAM 256K		
* IC104	XV777A00	IC	MX23C4096QC-1	ROM 4M		
IC105	XQ042A00	IC	SN74HC374ANSR	D-FF		03
IC106	XD660A00	IC	TC74HCU04AF-TP1	INVERTER		01
IC107	VN406200	IC	HCPL-0600-500	PHOTO COUPLER		05
IC108	XR150A00	IC	TC74HC4053AF	MULTIPLEXER		03
IC109	XP691A00	IC	HD6413002F16	CPU		10
IC110	XP226A00	IC	IC-PST591DMT	SYSTEM RESET		03
IC111	XD657A00	IC	TC74HC14AF-TP1	INVERTER		02
IC112	XT160A00	IC	93LC56T-I/SN	EP-ROM		03
IC113	XD836A00	IC	SN74HC174NSR	D-FF		02
IC114	XR681A00	IC	TC7S86F	EXOR		01
IC201	XU965A00	IC	UPC29M33T-E1	REGULATOR +3.3V		03
* IC202	XU229A00	IC	TC74LVC4245FS	BUS TRANSCEIVER		
* IC203	XU964A00	IC	CXD2538R	ATrac		
IC301	XT802A00	IC	AK4520A-VF-E2	DAC & ADC		07
IC302	XT802A00	IC	AK4520A-VF-E2	DAC & ADC		07
IC303	XF291A00	IC	UPC4570G2	OP AMP		03
-306	XF291A00	IC	UPC4570G2	OP AMP		03
IC307	XB738A00	IC	TC4053BF	MULTIPLEXER		03
-309	XB738A00	IC	TC4053BF	MULTIPLEXER		03
IC310	XF291A00	IC	UPC4570G2	OP AMP		03
IC311	XF291A00	IC	UPC4570G2	OP AMP		03
L101	VQ734800	Chip Beads Core (chip)	EXC CL4532U 4			01
L103	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
-107	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
L108	VU374100	Chip Inductance (chip)	ELJFA100 KF2			01
L109	VY666800	Chip Inductance (chip)	ELJFAR47KF			01
L110	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
-112	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
L201	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
L301	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
-303	VQ724900	Chip Inductance (chip)	BK2125HM601-T			01
R101	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R102	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R103	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R104	RD25510	Carbon Resistor (chip)	100.0 0.1 J			01
R105	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
R106	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R107	RD256560	Carbon Resistor (chip)	5.6K 0.1 J			01
R108	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R109	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01

*:New Parts

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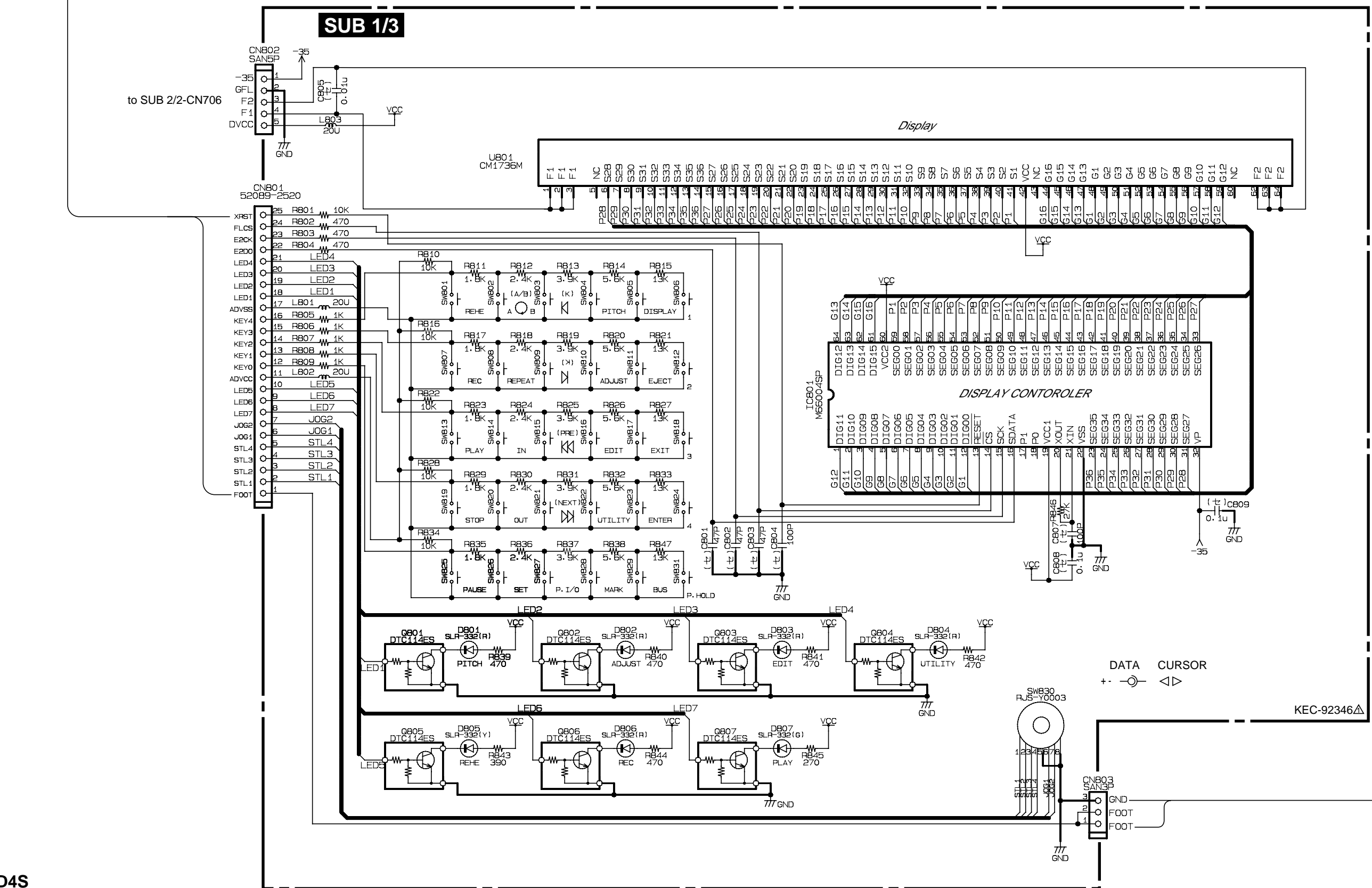
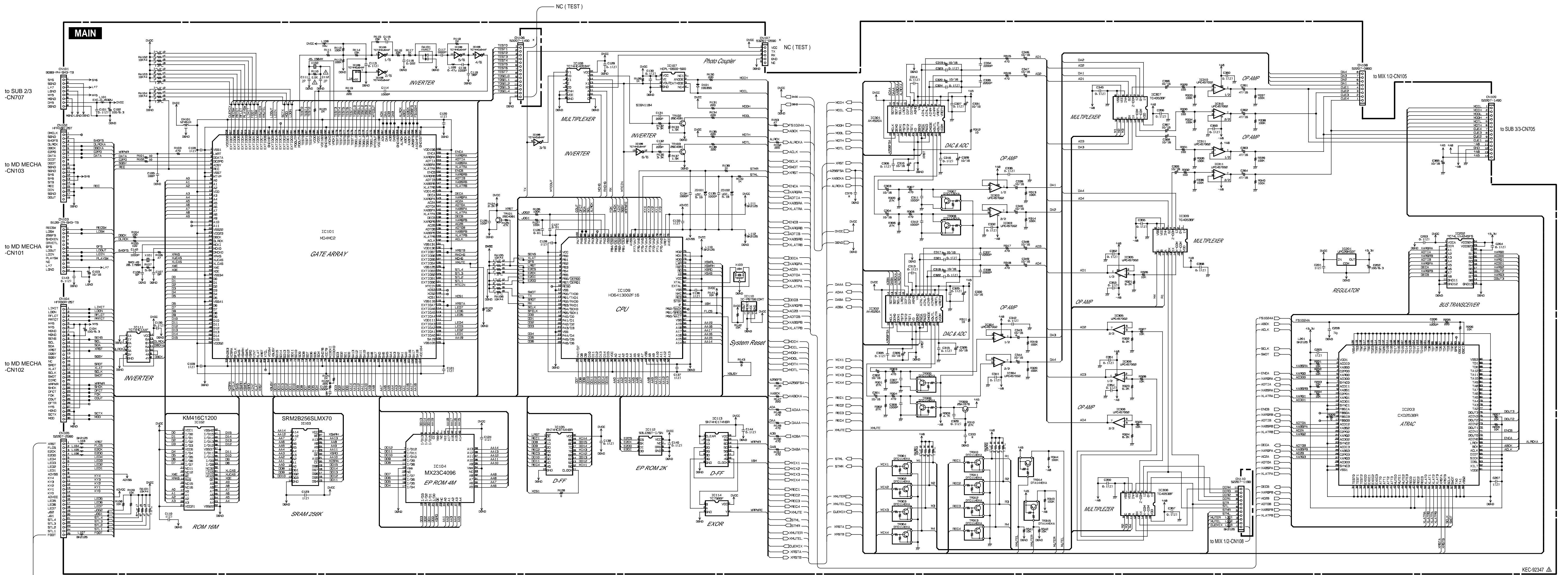
REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
R110	RD256680	Carbon Resistor (chip)	6.8K 0.1 J			01
R111	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R112	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R113	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R114	RD257150	Carbon Resistor (chip)	15.0K 0.1 J			01
R115	RD257150	Carbon Resistor (chip)	15.0K 0.1 J			01
R116	RD257330	Carbon Resistor (chip)	33.0K 0.1 J			01
R117	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R118	RD259100	Carbon Resistor (chip)	1.0M 0.1 J			01
R119	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R120	RD259100	Carbon Resistor (chip)	1.0M 0.1 J			01
R121	RD259100	Carbon Resistor (chip)	1.0M 0.1 J			01
R122	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R123	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R124	RD256220	Carbon Resistor (chip)	2.2K 0.1 J			01
R125	RD257470	Carbon Resistor (chip)	47.0K 0.1 J			01
R126	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R127	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R128	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R129	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R130	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R131	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R132	RD256330	Carbon Resistor (chip)	3.3K 0.1 J			01
R133	RD256150	Carbon Resistor (chip)	1.5K 0.1 J			01
R134	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R135	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R136	RD256330	Carbon Resistor (chip)	3.3K 0.1 J			01
R137	RD256150	Carbon Resistor (chip)	1.5K 0.1 J			01
R138	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R139	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R140	RD256100	Carbon Resistor (chip)	1.0K 0.1 J			01
R141	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R142	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R143	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R146	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R147	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R148	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
-151	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R152	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R153	RD254470	Carbon Resistor (chip)	47.0 0.1 J			01
R201	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
-204	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R205	RD255220	Carbon Resistor (chip)	220.0 0.1 J			01
R206	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
-208	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R209	RD250000	Carbon Resistor (chip)	0.0 0.0 J			01
R301	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R302	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R303	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R304	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R305	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R306	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R307	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R308	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R309	RD256470	Carbon Resistor (chip)	4.7K 0.1 J			01
R310	RD257270	Carbon Resistor (chip)	27.0K 0.1 J			01
R311	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R312	RD254100	Carbon Resistor (chip)	10.0 0.1 J			01
R313	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R314	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R315	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
-318	RD255470	Carbon Resistor (chip)	470.0 0.1 J			01
R319	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R320	RD258100	Carbon Resistor (chip)	100.0K 0.1 J			01
R321	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
-324	RD256620	Carbon Resistor (chip)	6.2K 0.1 J			01
R325	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
-328	RD257100	Carbon Resistor (chip)	10.0K 0.1 J			01
R329	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01
-332	RD255100	Carbon Resistor (chip)	100.0 0.1 J			01

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MD4S OVERALL CIRCUIT DIAGRAM 1/2 (MAIN,SUB1/3,SUB3/3)



Note : See parts list for details of circuit board component parts.

(C) : Ceramic Capacitor

